

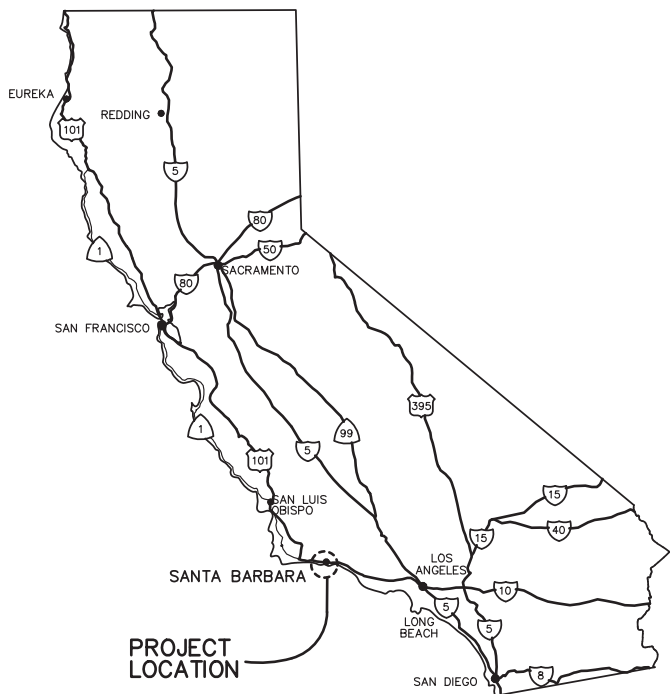
CITY OF SANTA BARBARA

PRELIMINARY CHANNEL DESIGN

LOWER SYCAMORE CREEK

DRAINAGE IMPROVEMENTS PROJECT

SANTA BARBARA, CA



LOCATION MAP
N.T.S.

LEGEND

(EXISTING FEATURES SCREENED AND/OR DASHED)	
	RETAINING WALL
	TOP OF BANK
	GRADED SLOPE
	TOE OF BANK
	ROW ENCROACHMENT TO BE REMOVED
	FLOWLINE OF CREEK
	PROPERTY LINE
	EASEMENT
	GUARD RAIL
	MAJOR CONTOUR**
	MINOR CONTOUR**
	SAWCUT LINE
	LIMITS OF GRADING
	SEWER PIPE
	WATER PIPE
	OVERHEAD WIRE
	GAS LINE
	ORDINARY HIGH WATER (EXISTING CONDITIONS)
	ORDINARY HIGH WATER (AFTER IMPROVEMENTS)
	TOP OF BANK
	WOODEN FENCE
	METAL FENCE
	POWER POLE
	SIGN
	STREET LIGHT
	MANHOLE
	TRASH RECEPTACLE
	TREE TO BE REMOVED
	SURVEY MARKER
	SURVEY MARKER
	GEOTECHNICAL BORE HOLE LOCATION

** ONLY EXISTING CONTOURS ARE SHOWN ON THESE PLANS TO ENHANCE PLAN READABILITY

SCOPE OF WORK

PRELIMINARY DESIGN OF SYCAMORE CREEK CHANNEL IMPROVEMENTS:

PHASE 1: FROM 5 FEET NORTH OF HIGHWAY 101 RIGHT OF WAY TO 100-150 FEET DOWNSTREAM OF PUNTA GORDA STREET; CONSTRUCTION ANTICIPATED TO START JUNE 1, 2012 (WORK IN CREEK WILL BEGIN JUNE 15, 2012 WITH APPROVAL BY QUALIFIED BIOLOGIST.)

PHASE 2: END OF PHASE 1 TO 55-75 FEET UP-STREAM OF PUNTA GORDA STREET BRIDGE TO JOIN EXISTING CREEK; CONSTRUCTION ANTICIPATED TO START JUNE 1, 2012 (WORK IN CREEK WILL BEGIN JUNE 15, 2012 WITH APPROVAL BY QUALIFIED BIOLOGIST.)

ESTIMATED EARTHWORK QUANTITIES

ESTIMATED EARTHWORK QUANTITIES - RAW QUANTITIES

CUT = 3,500 C.Y. FILL = 340 C.Y.

THE ABOVE QUANTITIES ARE APPROXIMATE IN PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISH GRADE OR SUBGRADE. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED. PROPOSED SUBGRADE ELEVATION IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED BENEATH PAVEMENTS OR STRUCTURES.

THE ABOVE QUANTITIES ARE FOR PERMIT PURPOSES ONLY AND HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.

THE CONTRACTOR SHALL PERFORM AN EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING A LUMP SUM BID PRICE FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS EARTH MATERIALS.



DIRECTORY

OWNER OF PROPERTY: CITY OF SANTA BARBARA
P.O. BOX 1990
SANTA BARBARA, CA 93102-1990

APPLICANT: BRIAN D'AMOUR, DEPARTMENT OF PUBLIC WORKS
P.O. BOX 1990
SANTA BARBARA, CA 93102-1990
805-564-5486

CIVIL ENGINEER: PENFIELD & SMITH
111 EAST VICTORIA STREET
SANTA BARBARA, CA 93101
805-963-9532

GEOTECHNICAL ENGINEER: FUGRO WEST

LANDSCAPE ARCHITECT: DAVID BLACK AND ASSOCIATES

GEOMORPHOLOGIST: STILLWATER SCIENCES

SHEET INDEX

- TITLE SHEET
 - KEY MAP AND SURVEY INFORMATION
 - RIGHT OF WAY AND EASEMENT MAP
 - FLOOD PLAIN MAP
 - CREEK PLAN AND PROFILE: STATION 9+50-12+05
 - CREEK PLAN AND PROFILE: STATION 12+05-14+55
 - STREET IMPROVEMENT PLAN - PUNTA GORDA STREET
 - TYPICAL CREEK AND STREET CROSS SECTIONS
- LANDSCAPE PLANS
- L-1 PLANTING PLAN - PHASE 1
 - L-2 PLANTING PLAN - PHASE 2
 - L-3 IRRIGATION PLAN - PHASE 1
 - L-4 IRRIGATION PLAN - PHASE 2
 - L-5 DETAILS & NOTES
 - L-6 IRRIGATION SPECIFICATIONS
 - L-7 PLANTING SPECIFICATIONS
 - L-8 MAINTENANCE SPECIFICATIONS
- PUNTA GORDA BRIDGE PLANS
- S-1 ISOMETRIC VIEW
 - S-2 BRIDGE PLAN
 - S-3 ELEVATIONS



VICINITY MAP
SCALE: 1"=1000'



30% SUBMITTAL



CITY OF SANTA BARBARA
PUBLIC WORKS DEPARTMENT-ENGINEERING DIVISION
APPROVED: _____ DATE: _____, 20____
CITY ENGINEER

SCALE:	VERT. N/A	PROJ. NO. _____
HOR. N/A	SHT. 1 OF 8 SHTS.	
ARCH. NO. _____	DWG. NO. C-____	

PRELIMINARY CHANNEL DESIGN
LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT
TITLE SHEET

EXHIBIT A

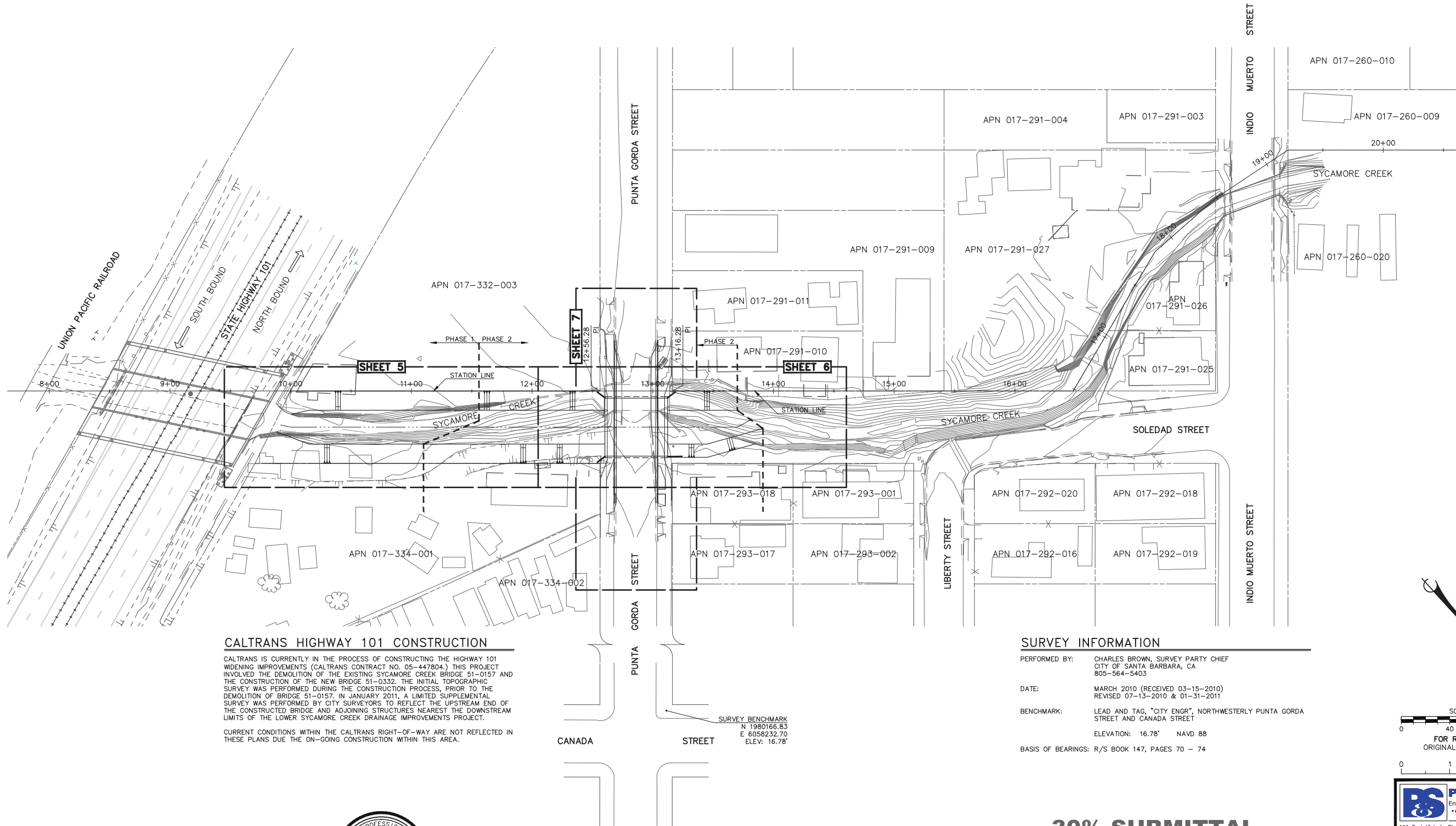
17 OCTOBER 2011
P&S W.O. 18767.02

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				P&S Q.A.	DWR
				INITIALS	
				DATE	



DESIGN ENGINEER

36-SB SAVE DATE: 10/24/2011 3:46:02 PM PLOT BY: Michael Osborn PLOT DATE: 10/24/2011 3:54:13 PM PLOT SCALE: 1:1



CALTRANS HIGHWAY 101 CONSTRUCTION

CALTRANS IS CURRENTLY IN THE PROCESS OF CONSTRUCTING THE HIGHWAY 101 WIDENING IMPROVEMENTS (CALTRANS CONTRACT NO. 05-447804.) THIS PROJECT INVOLVED THE DEMOLITION OF THE EXISTING SYCAMORE CREEK BRIDGE 51-0157 AND THE CONSTRUCTION OF THE NEW BRIDGE 51-0332. THE INITIAL TOPOGRAPHIC SURVEY WAS PERFORMED DURING THE CONSTRUCTION PROCESS, PRIOR TO THE DEMOLITION OF BRIDGE 51-0157. IN JANUARY 2011, A LIMITED SUPPLEMENTAL SURVEY WAS PERFORMED BY CITY SURVEYORS TO REFLECT THE UPSTREAM END OF THE CONSTRUCTED BRIDGE AND ADJOINING STRUCTURES NEAREST THE DOWNSTREAM LIMITS OF THE LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT.

CURRENT CONDITIONS WITHIN THE CALTRANS RIGHT-OF-WAY ARE NOT REFLECTED IN THESE PLANS DUE TO THE ON-GOING CONSTRUCTION WITHIN THIS AREA.

SURVEY INFORMATION

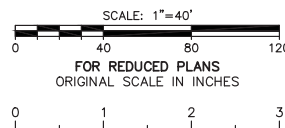
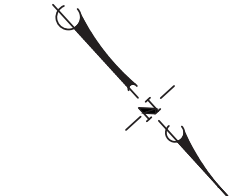
PERFORMED BY: CHARLES BROWN, SURVEY PARTY CHIEF
CITY OF SANTA BARBARA, CA
805-564-5403

DATE: MARCH 2010 (RECEIVED 03-15-2010)
REVISED 07-13-2010 & 01-31-2011

BENCHMARK: LEAD AND TAG, "CITY ENGR", NORTHWESTERLY PUNTA GORDA STREET AND CANADA STREET

ELEVATION: 16.78' NAVD 88

BASIS OF BEARINGS: R/S BOOK 147, PAGES 70 - 74



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30% SUBMITTAL



CITY OF SANTA BARBARA
PUBLIC WORKS DEPARTMENT-ENGINEERING DIVISION

APPROVED: _____ DATE: _____, 20____

CITY ENGINEER

SCALE:	VERT. N/A	PROJ. NO. _____
HOR. 1"=40'	SHT. 2 OF 8 SHTS.	
ARCH. NO. _____	DWG. NO. C-____	

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				INITIALS	
				DATE	



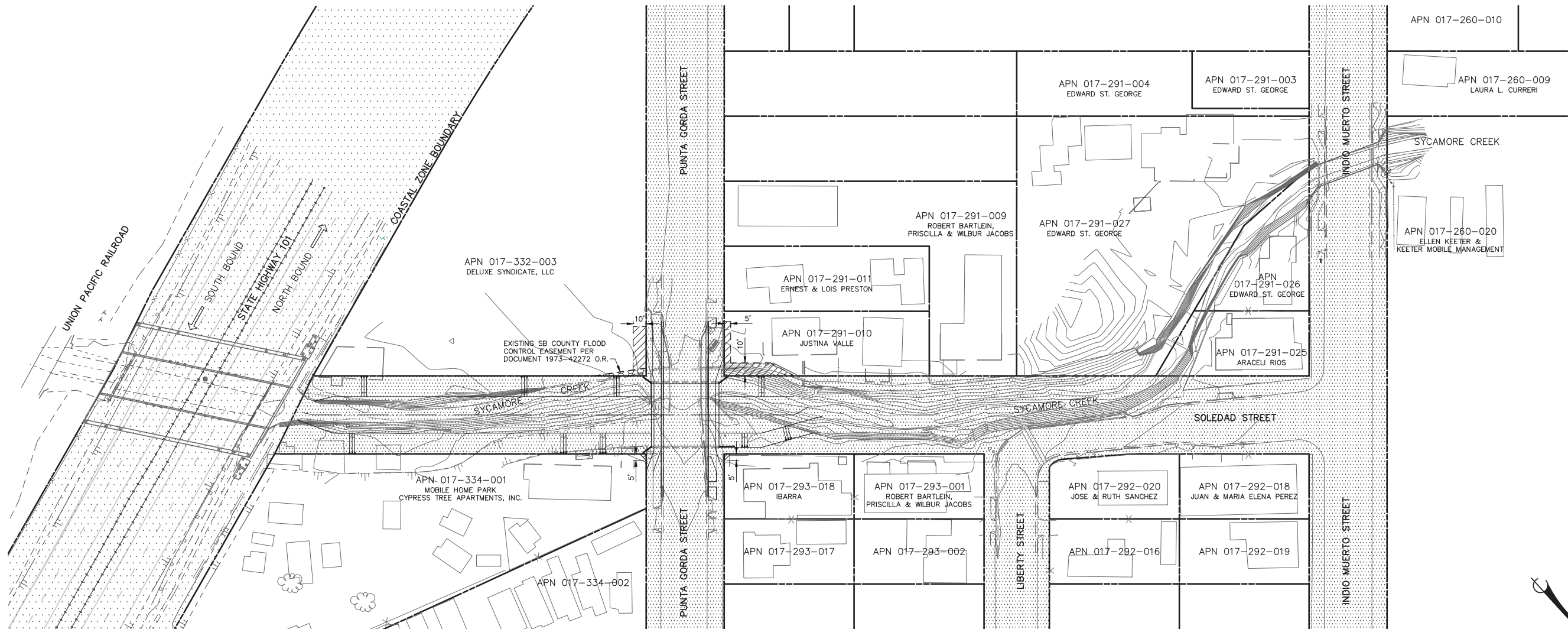
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PRELIMINARY CHANNEL DESIGN

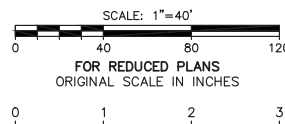
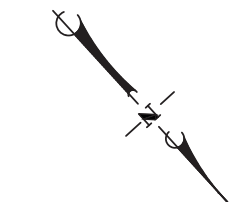
LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT

KEY MAP AND SURVEY INFORMATION

36-SB SAVE DATE: 10/24/2011 3:46:02 PM PLOT BY: Michael Osborn PLOT DATE: 10/24/2011 3:54:39 PM PLOT SCALE: 1:1



LEGEND	LOCATION	AREA
	EXISTING CITY STREET RIGHT OF WAY	N.A.
	EXISTING CALTRANS RIGHT OF WAY	N.A.
	EXISTING EASEMENT	APN 017-332-003 120.00 S.F.
	PROPOSED TEMPORARY CONSTRUCTION EASEMENT	APN 017-291-010 603.20 S.F. APN 017-332-003 326.02 S.F. APN 017-334-001 12.50 S.F. APN 017-293-018 12.50 S.F.



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				CHECKED	
				P&S Q.A.	DWR
				INITIALS	
				DATE	



PRELIMINARY CHANNEL DESIGN

LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT

RIGHT OF WAY AND EASEMENT MAP



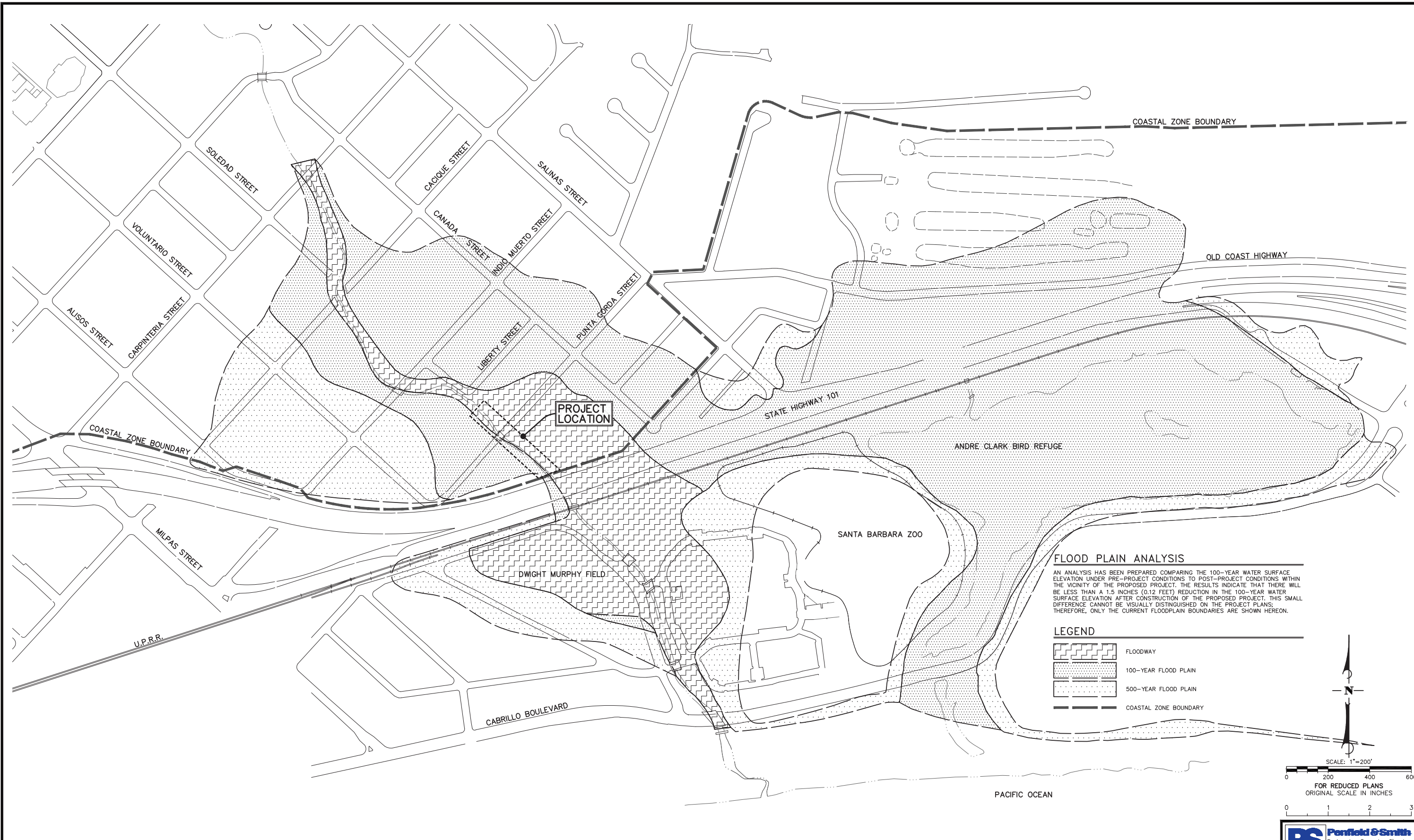
CITY OF SANTA BARBARA
PUBLIC WORKS DEPARTMENT-ENGINEERING DIVISION
APPROVED : _____ DATE: _____, 20____
CITY ENGINEER

SCALE:	VERT. N/A	PROJ. NO. _____
HOR. 1"=40'	SHT. 3 OF 8 SHTS.	DWG. NO. C-____
ARCH. NO. _____		



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36-SB SAVE DATE: 10/17/2011 10:35:56 AM PLOT BY: Michael Osborn PLOT DATE: 10/17/2011 10:38:18 AM PLOT SCALE: 1:1



FLOOD PLAIN ANALYSIS
AN ANALYSIS HAS BEEN PREPARED COMPARING THE 100-YEAR WATER SURFACE ELEVATION UNDER PRE-PROJECT CONDITIONS TO POST-PROJECT CONDITIONS WITHIN THE VICINITY OF THE PROPOSED PROJECT. THE RESULTS INDICATE THAT THERE WILL BE LESS THAN A 1.5 INCHES (0.12 FEET) REDUCTION IN THE 100-YEAR WATER SURFACE ELEVATION AFTER CONSTRUCTION OF THE PROPOSED PROJECT. THIS SMALL DIFFERENCE CANNOT BE VISUALLY DISTINGUISHED ON THE PROJECT PLANS; THEREFORE, ONLY THE CURRENT FLOODPLAIN BOUNDARIES ARE SHOWN HEREON.

- LEGEND**
- FLOODWAY
 - 100-YEAR FLOOD PLAIN
 - 500-YEAR FLOOD PLAIN
 - COASTAL ZONE BOUNDARY

17 OCTOBER 2011
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DATE	

DESIGN ENGINEER	DATE



PRELIMINARY CHANNEL DESIGN
LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT
FLOOD PLAIN MAP

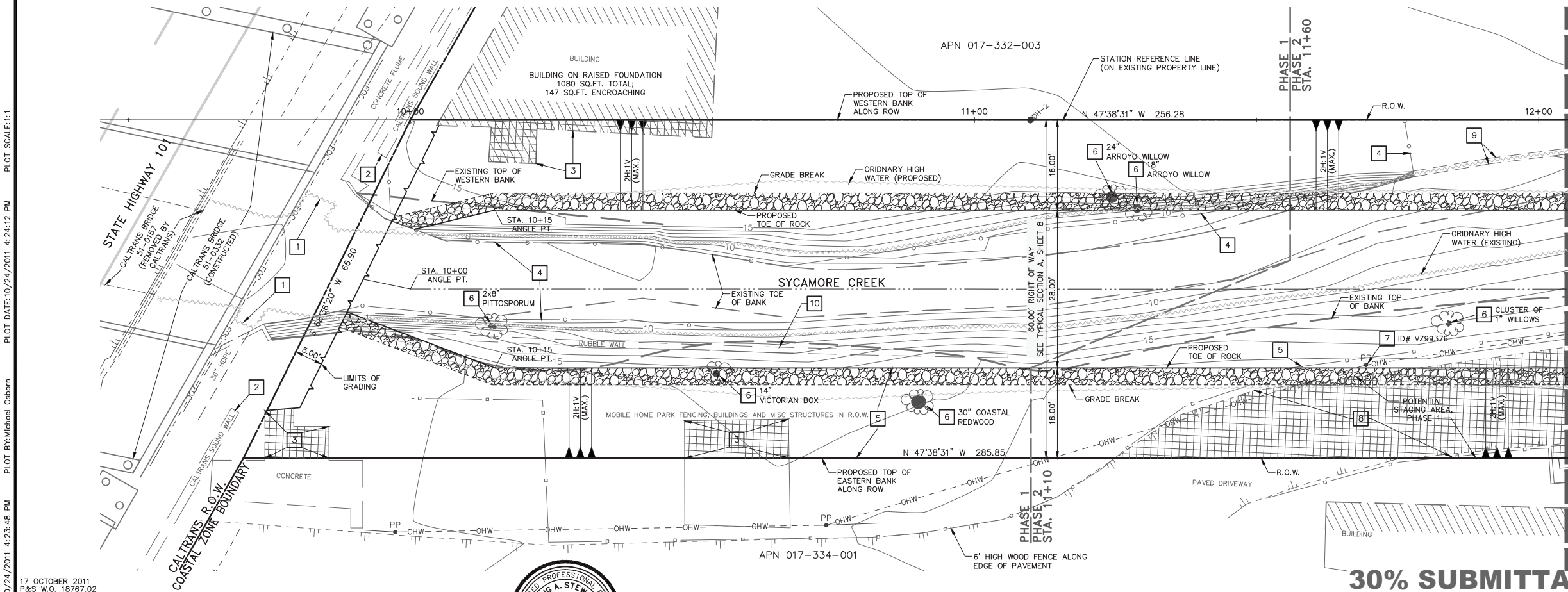
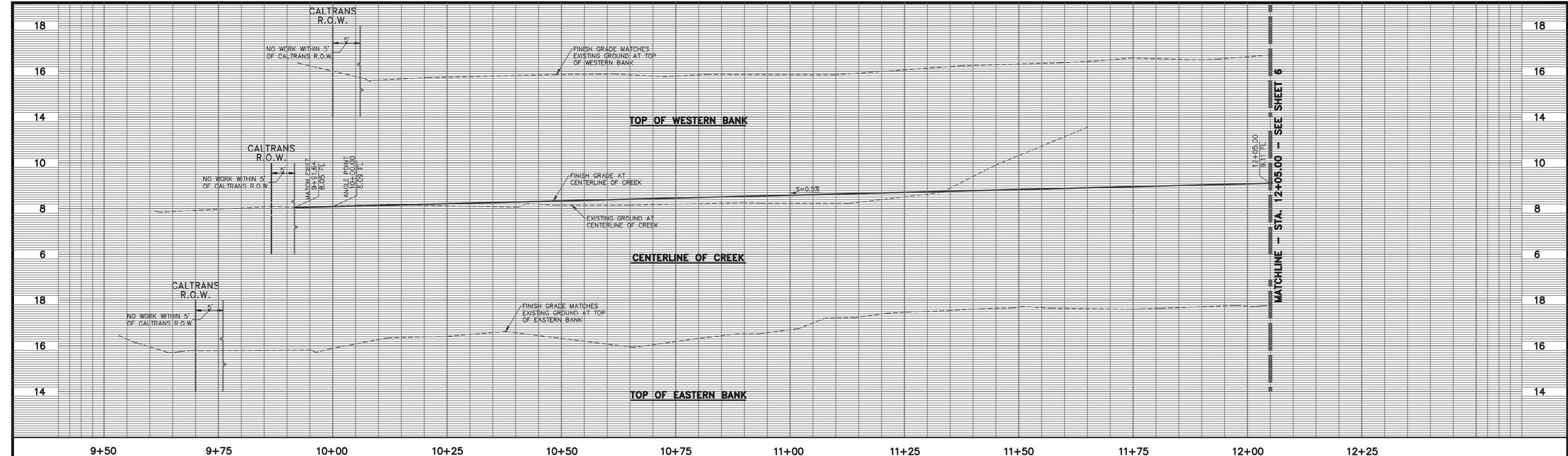


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PUBLIC WORKS DEPARTMENT-ENGINEERING DIVISION
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CITY ENGINEER

SCALE:	VERT. N/A	PROJ. NO. _____
HOR. 1"=200'	SHT. 4 OF 8 SHTS.	DWG. NO. C-____
ARCH. NO. _____		

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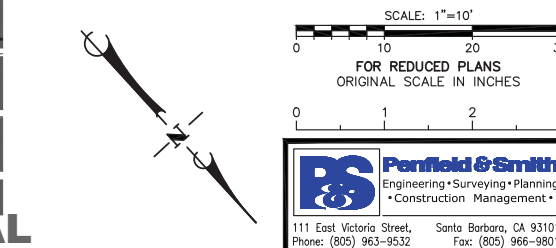


REMOVAL AND RELOCATION NOTES

- 1 STORM DRAIN HEADWALL REMOVED AND REMODELED BY CALTRANS.
- 2 CALTRANS SOUND WALL TO REMAIN.
- 3 REMOVE MISC. CONCRETE FLATWORK, GARDEN WALLS AND TEMPORARY STRUCTURES ENCROACHING INTO RIGHT OF WAY.
- 4 PIPE AND WIRE REVETMENT TO BE REMOVED (TYPICAL THROUGHOUT.)
- 5 REMOVE ALL FENCING, PAVEMENT, STRUCTURES, UTILITIES AND DEBRIS FROM WITHIN RIGHT OF WAY.
- 6 TREE TO BE REMOVED; DIAMETER AND COMMON NAME SHOWN ON PLAN.
- 7 EXISTING POWER POLE TO BE RELOCATED BY UTILITY COMPANY (IDENTIFICATION NUMBER AS SHOWN ON PLAN.)
- 8 REMOVE EXISTING PAVED DRIVEWAY FROM WITHIN RIGHT OF WAY.
- 9 REMOVE RETAINING WALL.
- 10 REMOVE RUBBLE WALL.

TREE REMOVALS

SIZE	SPECIES	LOCATION	SHEET SHOWN
24"	PITTOSPORUM	NORTH BANK	5
14"	VICTORIAN BOX	NORTH BANK	5
30"	COASTAL REDWOOD	NORTH BANK	5
24"	ARROYO WILLOW	SOUTH BANK	5
18"	ARROYO WILLOW	SOUTH BANK	5
1"	ARROYO WILLOW CLUSTER	NORTH BANK	5
1"	ARROYO WILLOW CLUSTER	NORTH BANK	6
3x10"	CAROLINA LAUREL CHERRY	NORTH BANK	6
6x12"	ARROYO WILLOW	NORTH BANK	6
3x24"	HONEY LOCUST	SOUTH BANK	6
4x14"	YUCCA	SOUTH BANK	6
20"	HONEY LOCUST	SOUTH BANK	6
6"	CALIFORNIA PRIVET	SOUTH BANK	6
3"	CALIFORNIA SYCAMORE	NORTH BANK	6
6"	COAST LIVE OAK	SOUTH BANK	6
6"	AVOCADO	SOUTH BANK	6
9"	ARROYO WILLOW	NORTH BANK	6
3x9"	ARROYO WILLOW	NORTH BANK	6



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				INITIALS	
				DATE	

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DRAWN: MLO
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P&S Q.A.: DWR
INITIALS:
DATE:
CIVIL ENGINEER
NO. 37253
STATE OF CALIFORNIA

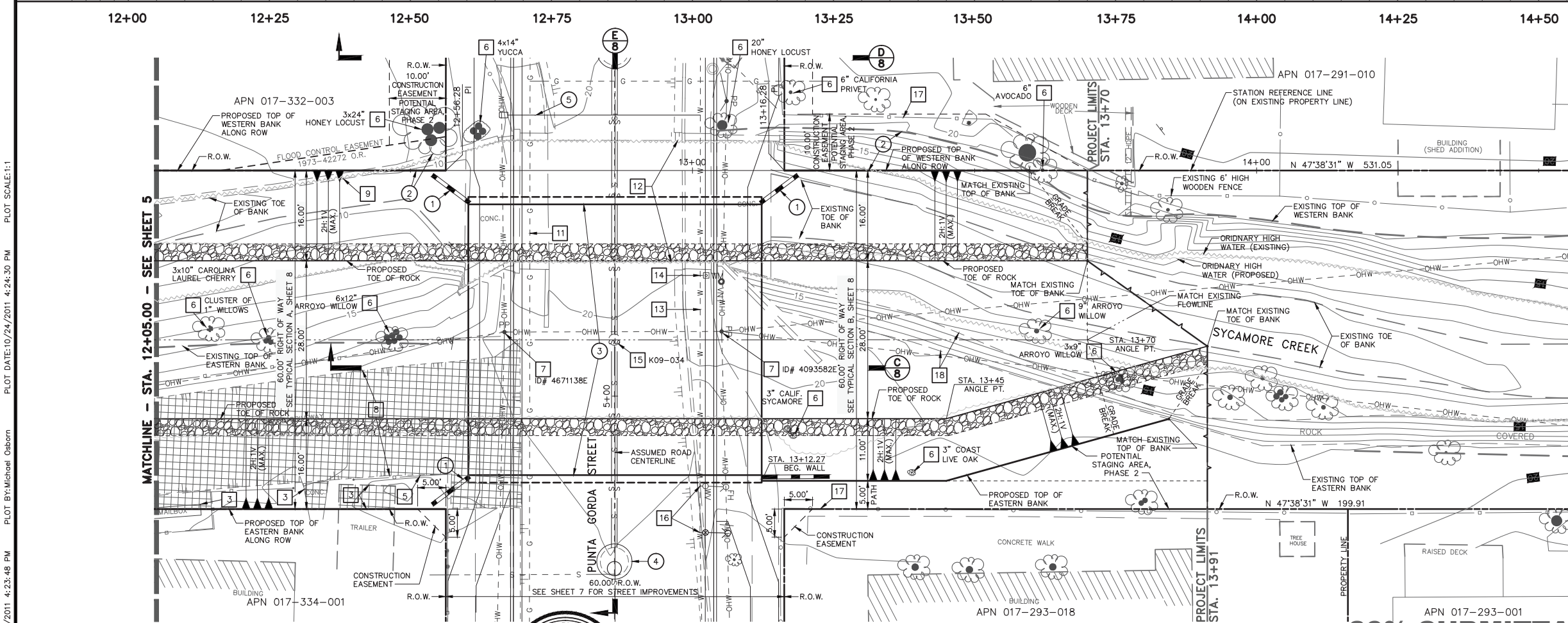
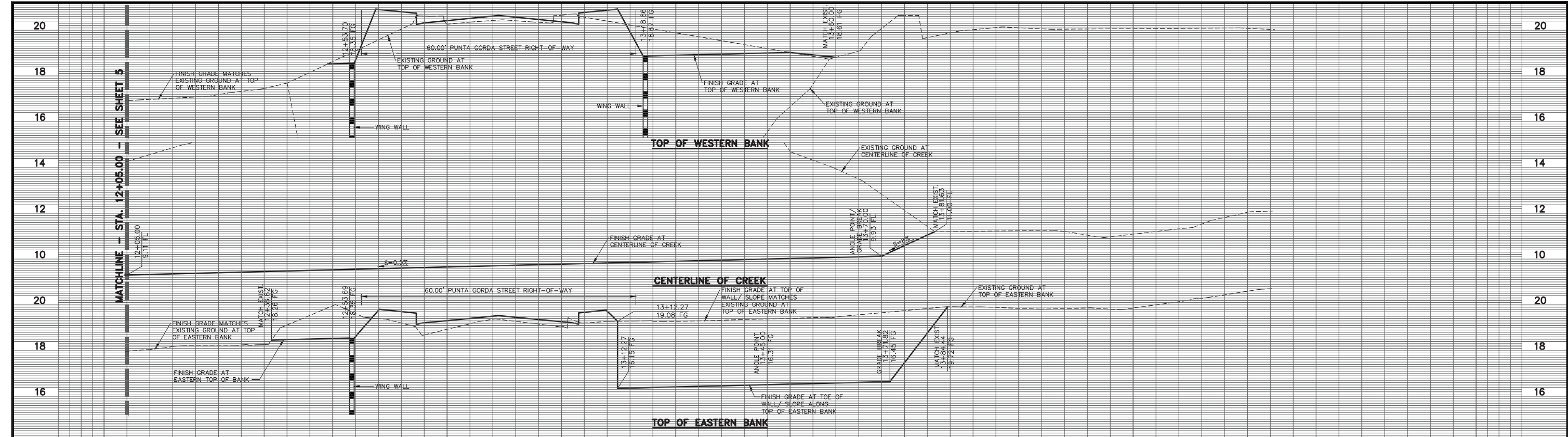
PRELIMINARY CHANNEL DESIGN
LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT
CREEK PLAN AND PROFILE: STATION 9+50 - 12+05

30% SUBMITTAL
CITY OF SANTA BARBARA
PUBLIC WORKS DEPARTMENT-ENGINEERING DIVISION
APPROVED: _____ DATE: _____, 20____
CITY ENGINEER

SCALE:
VERT. 1"=2'
HOR. 1"=10'
ARCH. NO. _____
PROJ. NO. _____
SHT. 5 OF 8 SHTS.
DWG. NO. C-____

36-SB SAVE DATE: 10/24/2011 4:23:48 PM PLOT BY: Michael Osborn PLOT DATE: 10/24/2011 4:24:12 PM PLOT SCALE: 1:1

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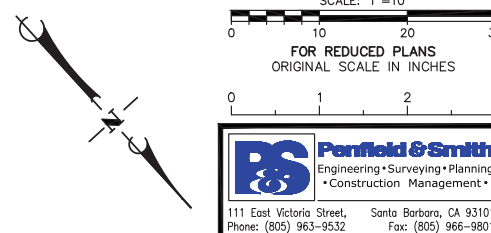


REMOVAL AND RELOCATION NOTES

- REMOVE MISC. CONCRETE FLATWORK, GARDEN WALLS AND TEMPORARY STRUCTURES ENCRANCHING INTO RIGHT OF WAY.
- REMOVE ALL FENCING, PAVEMENT, STRUCTURES, UTILITIES AND DEBRIS FROM WITHIN RIGHT OF WAY.
- TREE TO BE REMOVED; DIAMETER AND COMMON NAME SHOWN ON PLAN.
- EXISTING POWER POLE TO BE RELOCATED BY UTILITY COMPANY (IDENTIFICATION NUMBER AS SHOWN ON PLAN.)
- REMOVE EXISTING PAVED DRIVEWAY FROM WITHIN RIGHT OF WAY.
- REMOVE RETAINING WALL.
- EXISTING GAS LINE TO BE RELOCATED BY SOUTHERN CALIFORNIA GAS COMPANY.
- REMOVE EXISTING BRIDGE AND ABUTMENTS, COMPLETE.
- EXISTING WATER LINE TO BE REMOVED. CONSTRUCT NEW WATER LINE UNDER THE DECK OF THE NEW BRIDGE.
- RELOCATE WATER METER, BLOW-OFF VALVE AND APPURTENANCES.
- REMOVE SEWER MANHOLE, IDENTIFICATION NUMBER SHOWN ON PLAN.
- RELOCATE EXISTING FIRE HYDRANT AND CONNECTION.
- REMOVE FENCING AND REPLACE AFTER CONSTRUCTION.
- REMOVE ROCK BANK PROTECTION AND SALVAGE STONE FOR REUSE.

CONSTRUCTION NOTES

- CONSTRUCT NEW CONCRETE WINGWALL.
- PLACE FILL TO THE LEVEL OF TOP OF BANK AND EXISTING GROUND.
- CONSTRUCT NEW CONSPAN 48' SPAN x 10' RISE PRE-CAST BRIDGE AND FOUNDATIONS.
- CONSTRUCT NEW 5' (60") DIAMETER PRECAST SEWER MANHOLE PER CITY STANDARD DETAIL 5-001.0-06 WITH ECCENTRIC CONE AND 30" FRAME AND COVER.
- INSTALL NEW 5/8" WATER SERVICE AND METER BOX PER CITY STANDARD DETAILS 6-050.0-06 AND 6-006.0-06 FOR LONG-TERM LANDSCAPE MAINTENANCE.



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				DATE	

DESIGN ENGINEER	DATE
CRAIG A. STEWARD	
NO 37253	
CIVIL	
STATE OF CALIFORNIA	

PRELIMINARY CHANNEL DESIGN
LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT
CREEK PLAN AND PROFILE: STATION 12+05 - 14+55

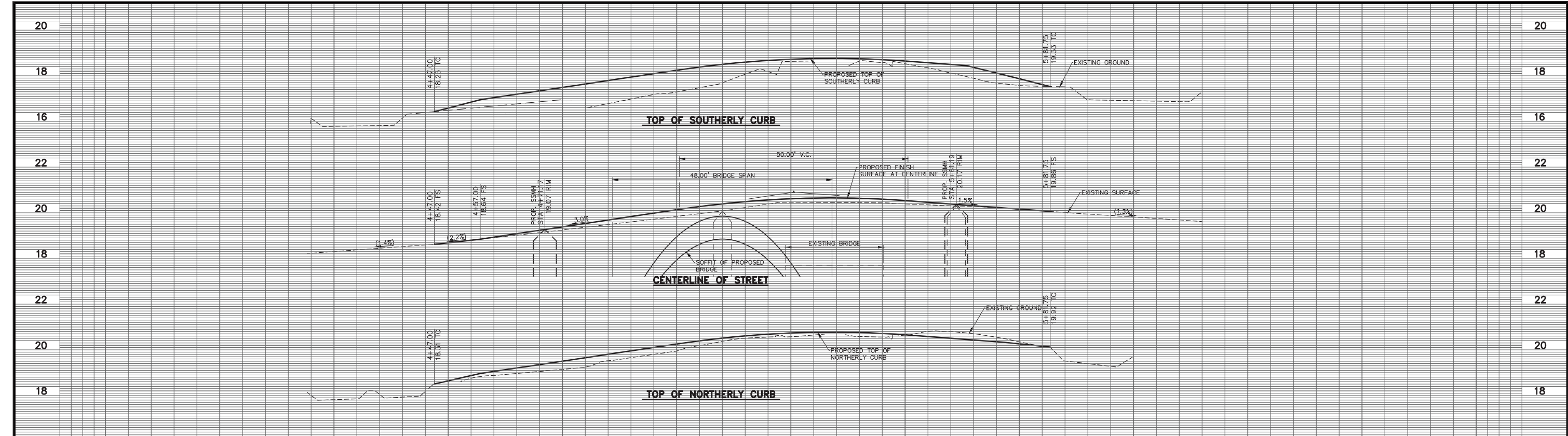
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PUBLIC WORKS DEPARTMENT-ENGINEERING DIVISION

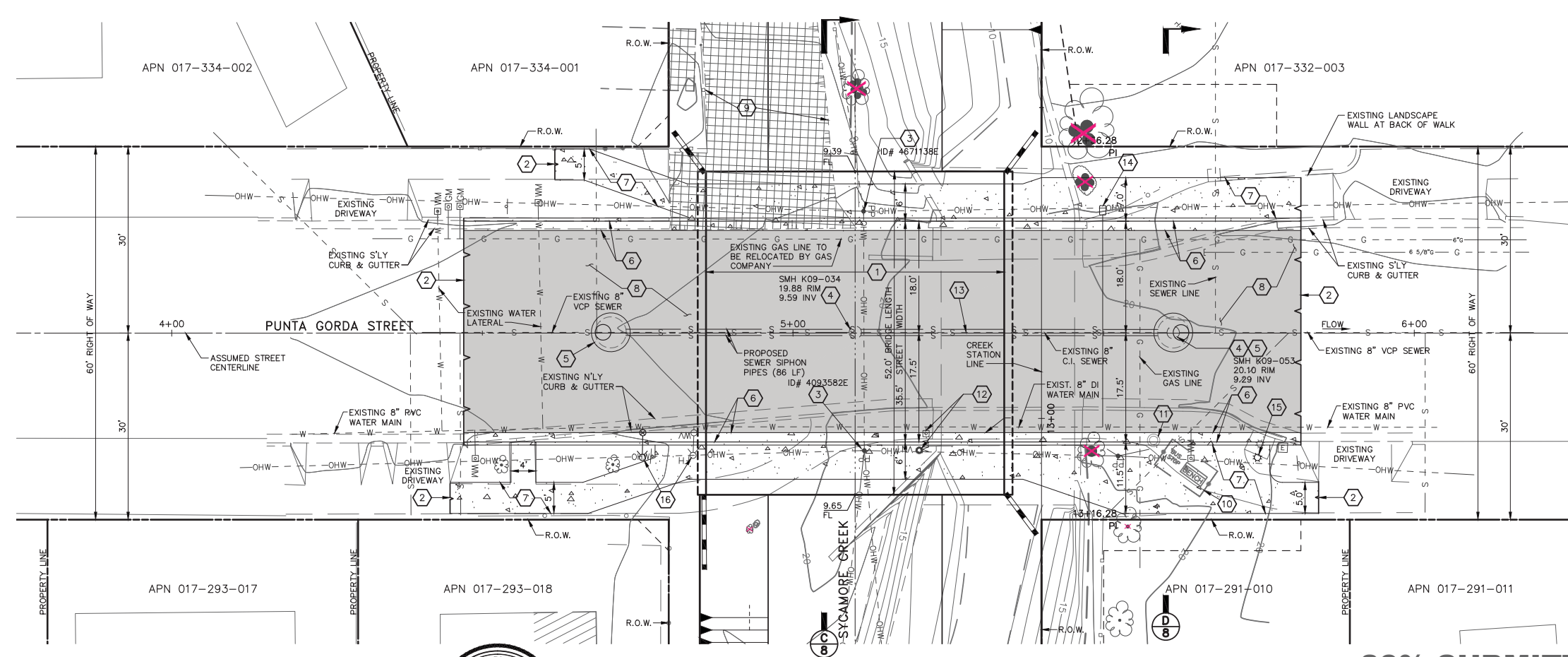
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CITY ENGINEER

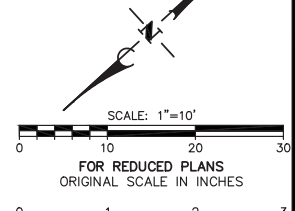
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HOR. 1"=10'	SHT. 6 OF 8 SHTS.	
ARCH. NO. _____	DWG. NO. C-____	



3+75 4+00 4+25 4+50 4+75 5+00 5+25 5+50 5+75 6+00 14+50 14+75



- ### STREET CONSTRUCTION NOTES
1. CONSTRUCT NEW CONSPAN 48' SPAN x 10' RISE PRE-CAST BRIDGE PER CHANNEL PLANS.
 2. REMOVE EXISTING WITHIN SAWCUT LIMITS SHOWN AND CONSTRUCT NEW PAVEMENT, CURB, GUTTER AND SIDEWALK.
 3. SEE TO RELOCATE POWER POLE.
 4. REMOVE EXISTING SEWER MANHOLE.
 5. CONSTRUCT NEW 5' (60") DIAMETER SEWER MANHOLE PER CITY STANDARD DETAIL 5-001.0-06 WITH ECCENTRIC CONE AND 30" FRAME AND COVER.
 6. CONSTRUCT 6" CURB AND 18" GUTTER PER CITY STANDARD DETAIL 1-002.0-06.
 7. CONSTRUCT 4" P.C.C. SIDEWALK PER CITY STANDARD DETAILS 1-006.0-06 AND 1-006.1-06.
 8. CONSTRUCT AC PAVEMENT.
 9. EXISTING PAVED DRIVEWAY, STRUCTURES AND OTHER FEATURES TO BE REMOVED FROM WITHIN RIGHT OF WAY.
 10. REPOSITION BUS STOP BENCH AND CANOPY PARALLEL WITH NEW CURB.
 11. RELOCATE TRASH RECEPTACLE BEHIND CURB.
 12. RELOCATE WATER METER AND VENT.
 13. REMOVE EXISTING SEWER PIPE BETWEEN NEW MANHOLES. CONSTRUCT INVERTED SIPHON SYSTEM.
 14. INSTALL NEW 5/8" WATER SERVICE AND METER BOX PER CITY STANDARD DETAILS 6-050.0-06 AND 6-006.0-06 FOR LONG-TERM LANDSCAPE MAINTENANCE.
 15. RELOCATE EXISTING STREET LIGHT AND PULL BOX BEHIND NEW CURB PER CITY STANDARD DETAIL 3-001.0-08.
 16. RELOCATE EXISTING FIRE HYDRANT AND APPURTENANCES PER CITY STANDARD DETAILS 6-001.0-06 AND 6-001.1-06.



17 OCTOBER 2011
P&S W.O. 18767.02

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INITIALS	
DATE	

DESIGN ENGINEER

DATE

NO. 37253

CIVIL

STATE OF CALIFORNIA

36-SB

SAVE DATE: 10/17/2011 10:41:03 AM

PLOT BY: Michael Osborn

PLOT DATE: 10/24/2011 4:25:01 PM

PLOT SCALE: 1:1

PRELIMINARY CHANNEL DESIGN

LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT

STREET IMPROVEMENT PLAN - PUNTA GORDA STREET

30% SUBMITTAL

CITY OF SANTA BARBARA

PUBLIC WORKS DEPARTMENT-ENGINEERING DIVISION

APPROVED: _____

CITY ENGINEER

DATE: _____, 20__

SCALE:

VERT. 1"=2'

HOR. 1"=10'

ARCH. NO. _____

PROJ. NO. _____

SHT. 7 OF 8 SHTS.

DWG. NO. C-_-_-

111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

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05 AUGUST 2011
P&S W.O. 18767.02

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				INITIALS	
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PRELIMINARY CHANNEL DESIGN

LOWER SYCAMORE CREEK DRAINAGE IMPROVEMENTS PROJECT

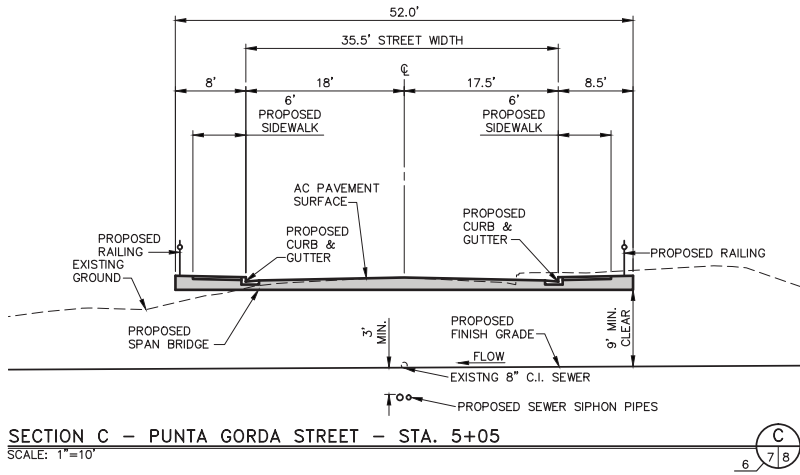
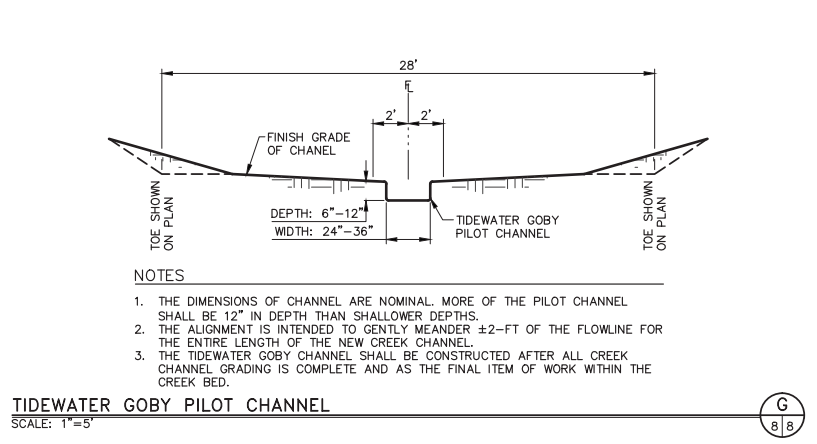
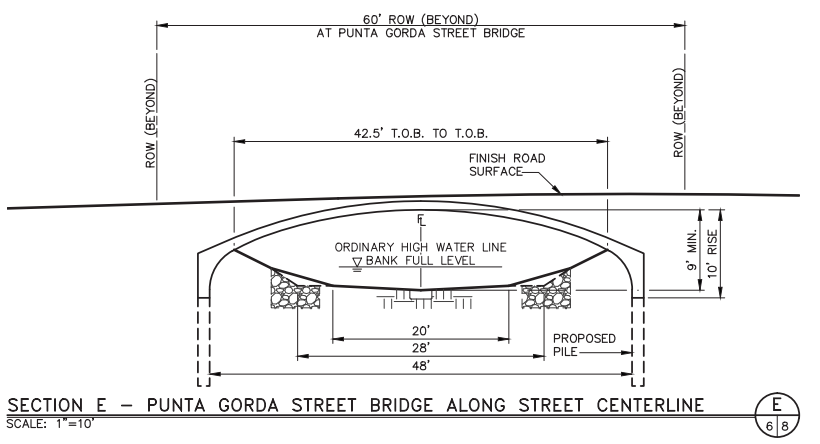
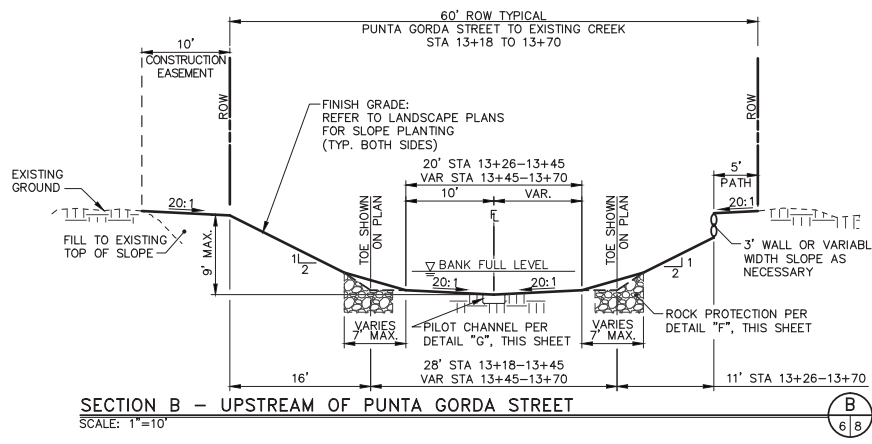
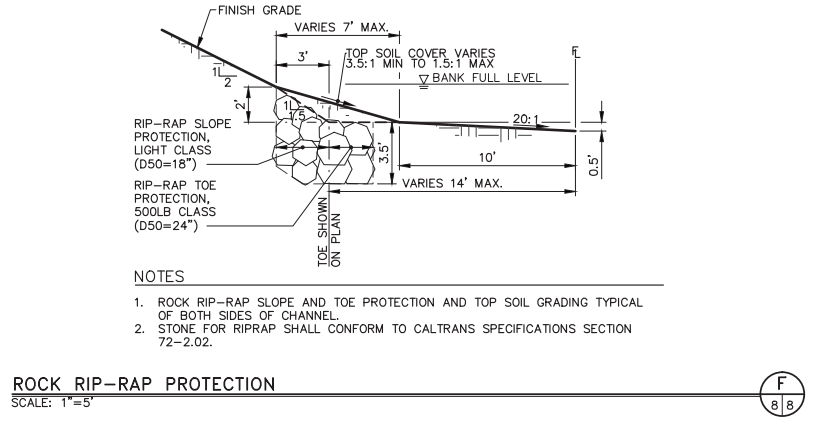
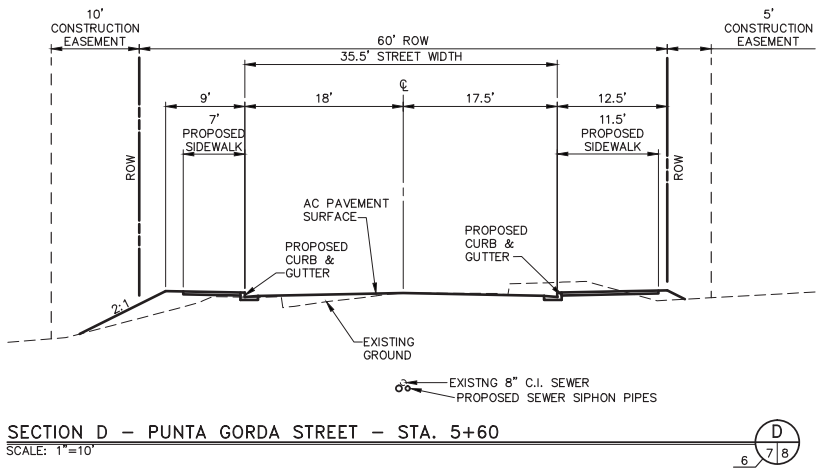
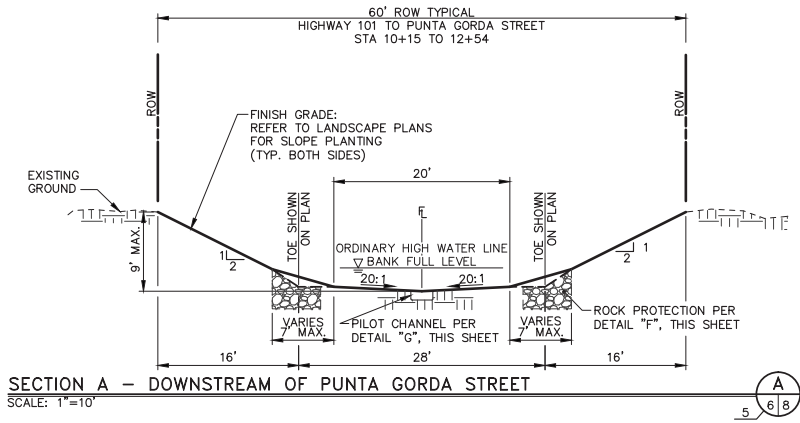
TYPICAL CREEK AND STREET CROSS SECTIONS



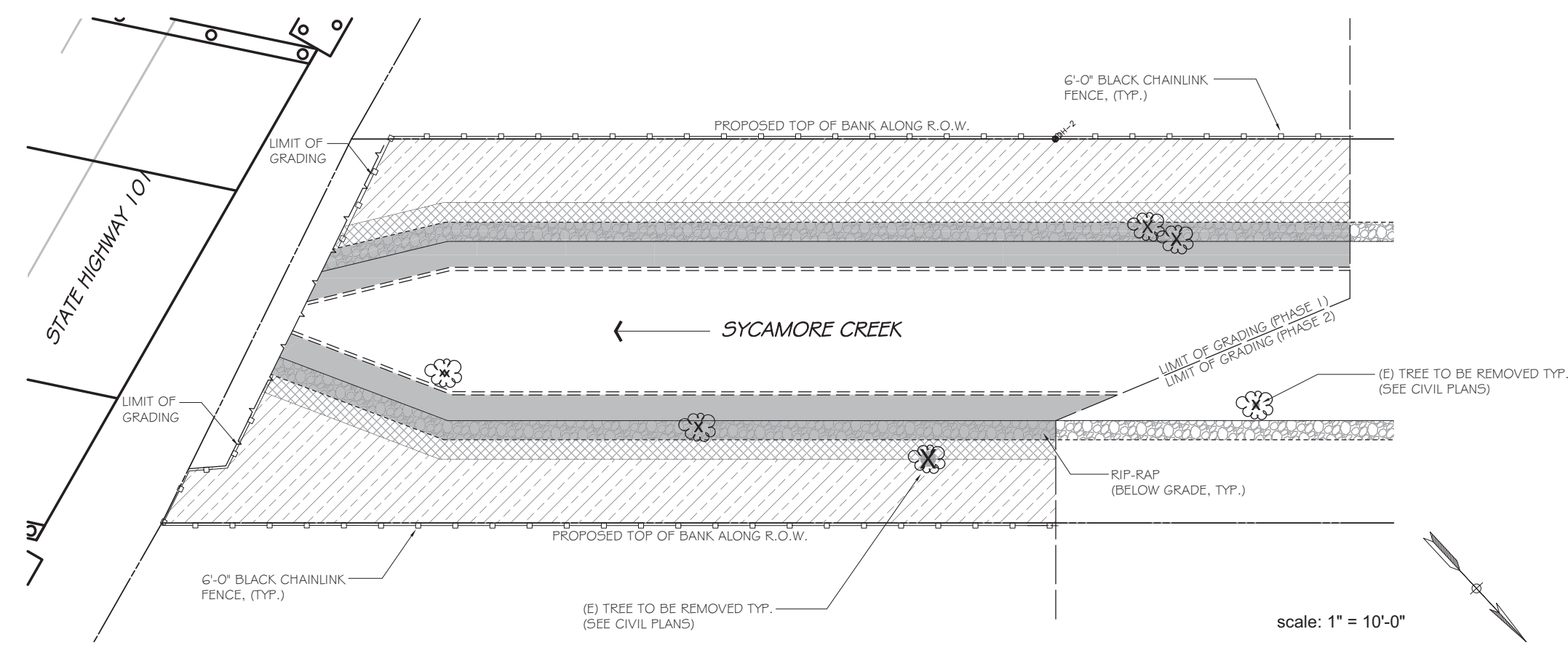
CITY OF SANTA BARBARA
PUBLIC WORKS DEPARTMENT-ENGINEERING DIVISION
APPROVED : _____ DATE: _____, 20____
CITY ENGINEER

SCALE:	VERT. N/A	PROJ. NO. _____
HOR. N/A	SHT. 8 OF 8 SHTS.	DWG. NO. C-__-__
ARCH. NO. _____		

Penfield & Smith
Engineering • Surveying • Planning
Construction Management •
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801



30% SUBMITTAL



PLANT LEGEND

PLANTING ZONES					
Water's Edge Zone					
Estimated Length: 300 ft (Average spacing 2'-0")					
Scientific Name	Common Name	Seed Source	Size	Quantity	
Baccharis salicifolius	Mulefat	GS/ SBN	1 gal	37	
Juncus textilis	Basket Rush	GS/ SBN	1 gal	38	
Scirpus americanus	American Chair -Masters Rush	GS/ SBN	1 gal	37	
Scirpus robustus	Bulrush	GS/ SBN	1 gal	38	
			Total	150	
Rip-rap Zone					
Estimated Area: 2,000 square feet (2'-0" triangular spacing)					
Scientific Name	Common Name	Seed Source	Size	Quantity	
Baccharis salicifolius	Mulefat	Local	live stakes	150	
Salix exigua	Sandbar Willow	Local	live stakes	300	
Salix lasiolepis	Arroyo Willow	Local	live stakes	50	
			Total	500	
Rip-rap Edge Zone					
Estimated Area: 835 square feet (2'-0" o.c. spacing)					
Artemisia douglasiana	Mugwort	GS/ SBN	1 gal	53	
Leymus triticoides	Creeping Wildrye	GS/ SBN	1 gal	63	
Rosa californica	California Wildrose	GS/ SBN	1 gal	42	
Rubus ursinus	Blackberry	GS/ SBN	1 gal	52	
			Total	210	



Upper Bank Zone					
Estimated Area: 3035 square feet (3'-0" triangular spacing)					
Scientific Name	Common Name	Seed Source	Size	Quantity	
Trees and Large Shrubs					
Heteromeles arbutifolia	Toyon	GS/ SBN	1 gal	10	
Platanus racemosa	Western Sycamore	GS/ SBN	1 gal	15	
Populus balsamifera	Balsam Poplar	GS/ SBN	1 gal	10	
Prunus ilicifolia	Hollyleaf Cherry	GS/ SBN	1 gal	10	
Quercus agrifolia	Coast Live Oak	GS/ SBN	1 gal	12	
Rhamnus californica	Coffeeberry	GS/ SBN	1 gal	9	
Salix lasiolepis	Arroyo Willow	GS/ SBN	live stakes	10	
Sambucus mexicana	Elderberry	GS/ SBN	1 gal	10	
Smaller Shrubs and Groundcovers					
Artemisia douglasiana	Mugwort	GS/ SBN	1 gal	35	
Baccharis salicifolius	Mulefat	GS/ SBN	1 gal	22	
Clematis ligusticifolia	Virgin's Bower	GS/ SBN	1 gal	18	
Leymus condensatus	Giant Rye Grass	GS/ SBN	1 gal	22	
Lonocera subspicata var. subspicata	Santa Barbara Honeysuckle	GS/ SBN	1 gal	44	
Muhlenbergia rigens	Deer Grass	GS/ SBN	1 gal	20	
Ribes divaricatum	Straggly gooseberry	GS/ SBN	1 gal	35	
Ribes speciosum	Fuchsia-flowered gooseberry	GS/ SBN	1 gal	44	
Rosa californica	California wildrose	GS/ SBN	1 gal	35	
Rubus ursinus	Blackberry	GS/ SBN	1 gal	52	
Salvia spathacea	Hummingbird Sage	GS/ SBN	1 gal	44	
Vernegasia carpesoides	Canyon sunflower	GS/ SBN	1 gal	18	
Verbena lasiostachys	Verbena	GS/ SBN	1 gal	22	
			Total	497	

LINETYPE LEGEND

6'-0" Black Chainlink Fence
Total: Approx. 345 linear feet



PLANTING PLAN
PHASE 1

October 17, 2011

DAVID R. BLACK & ASSOCIATES
LANDSCAPE ARCHITECTURE
URBAN DESIGN
1718 PAMPAS AVENUE
SANTA BARBARA, CALIFORNIA 93101
(805) 898-8717
FAX: (805) 898-0373
e-mail: drblack@davidblackla.com

PUBLIC WORKS
DEPARTMENT
ENGINEERING DIVISION

DATE _____

NO. _____

DATE _____

APPROVED _____

REVISIONS

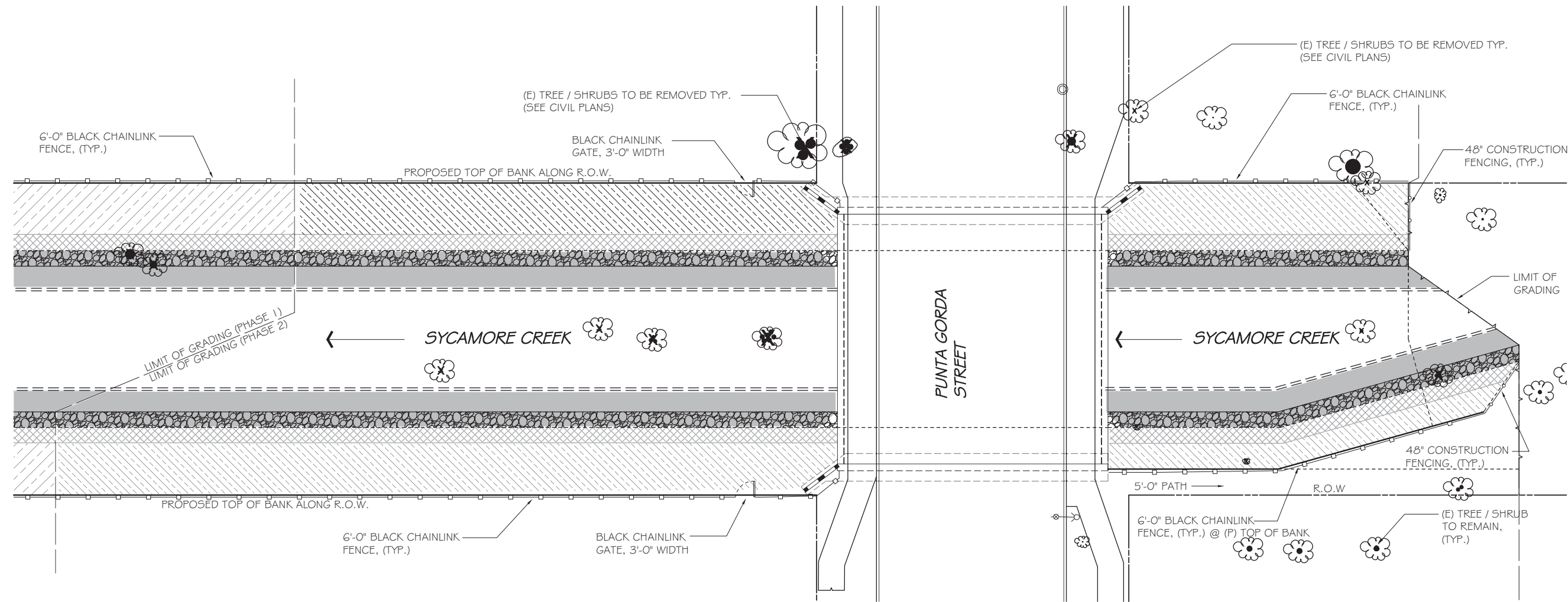
Preliminary Channel Design
Lower Sycamore Creek Drainage Improvements Project
for City Approval:

7880
PBW. NO.

TBD
BID NO.

L-1
DWG. NO.

SHT. _____ OF TBD



PLANT LEGEND

PLANTING ZONES					
Water's Edge Zone					
Estimated Length: 500 ft (Average spacing 2'-0")					
Scientific Name	Common Name	Seed Source	Size	Quantity	
Baccharis salicifolius	Mulefat	GS/ SBN	1 gal	62	
Juncus textilis	Basket Rush	GS/ SBN	1 gal	62	
Scirpus americanus	American Chair -Masters Rush	GS/ SBN	1 gal	62	
Scirpus robustus	Bulrush	GS/ SBN	1 gal	62	
			Total	248	
Rip-rap Zone					
Estimated Area: 2,600 square feet (2'-0" triangular spacing)					
Scientific Name	Common Name	Seed Source	Size	Quantity	
Baccharis salicifolius	Mulefat	Local	live stakes	195	
Salix exigua	Sandbar Willow	Local	live stakes	390	
Salix lasiolepis	Arroyo Willow	Local	live stakes	65	
			Total	650	
Rip-rap Edge Zone					
Estimated Area: 1,080 square feet (2'-0" o.c. spacing)					
Artemisia douglasiana	Mugwort	GS/ SBN	1 gal	69	
Leymus triticoides	Creeping Wildrye	GS/ SBN	1 gal	83	
Rosa californica	California Wildrose	GS/ SBN	1 gal	55	
Rubus ursinus	Blackberry	GS/ SBN	1 gal	68	
			Total	275	

Upper Bank Zone					
Estimated Area: 3,040 square feet (3'-0" triangular spacing)					
Scientific Name	Common Name	Seed Source	Size	Quantity	
Trees and Large Shrubs					
Heteromeles arbutifolia	Toyon	GS/ SBN	1 gal	10	
Platanus racemosa	Western Sycamore	GS/ SBN	1 gal	15	
Populus balsamifera	Balsam Poplar	GS/ SBN	1 gal	10	
Prunus ilicifolia	Hollyleaf Cherry	GS/ SBN	1 gal	10	
Quercus agrifolia	Coast Live Oak	GS/ SBN	1 gal	12	
Rhamnus californica	Coffeeberry	GS/ SBN	1 gal	9	
Salix lasiolepis	Arroyo Willow	GS/ SBN	live stakes	20	
Sambucus mexicana	Elderberry	GS/ SBN	1 gal	10	
Smaller Shrubs and Groundcovers					
Artemisia douglasiana	Mugwort	GS/ SBN	1 gal	36	
Baccharis salicifolius	Mulefat	GS/ SBN	1 gal	23	
Clematis ligusticifolia	Virgin's Bower	GS/ SBN	1 gal	18	
Leymus condensatus	Giant Rye Grass	GS/ SBN	1 gal	22	
Lonicera subspicata var. subspicata	Santa Barbara Honeysuckle	GS/ SBN	1 gal	45	
Muhlenbergia rigens	Deer Grass	GS/ SBN	1 gal	20	
Ribes divaricatum	Straggly gooseberry	GS/ SBN	1 gal	36	
Ribes speciosum	Fuchsia-flowered gooseberry	GS/ SBN	1 gal	45	
Rosa californica	California wildrose	GS/ SBN	1 gal	36	
Rubus ursinus	Blackberry	GS/ SBN	1 gal	55	
Salvia spathacea	Hummingbird Sage	GS/ SBN	1 gal	45	
Venegasia carpesioides	Canyon sunflower	GS/ SBN	1 gal	18	
Verbena lasiostachys	Verbena	GS/ SBN	1 gal	23	
			Total	518	

LINETYPE LEGEND

- 6'-0" Black Chainlink Fence
Total: Approx. 345 linear feet
- 48" Construction Fencing. Color: Green
Total: Approx. 25 linear feet

Note: Construction Fencing is temporary and shall be installed for 5 years during plant establishment period.



PLANTING PLAN

PHASE 2 scale: 1" = 10'-0"

October 17, 2011



LANDSCAPE ARCHITECTURE
URBAN DESIGN
1718 PAMPAS AVENUE
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CALIFORNIA 93101
(805) 898-8717
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www.drbllc.com

PUBLIC WORKS
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ENGINEERING DIVISION

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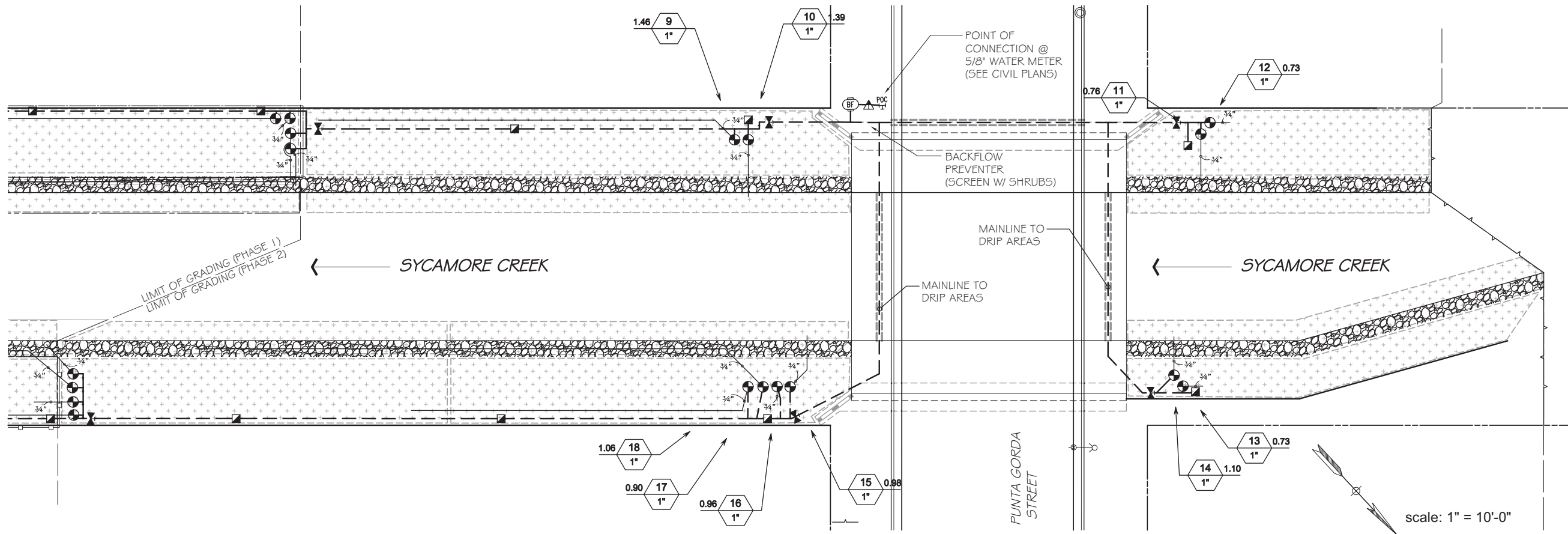
October 17, 2011

NO.	DATE	APPROVED	REVISIONS

Preliminary Channel Design
Lower Sycamore Creek Drainage Improvements Project
for City Approval:

FA No. BRLS-XXXX
BRIDGE NO. XXXX

7880	PBW. NO.
TBD	SHT. DES.
L-4	DWG. NO.
SHT.	OF TBD



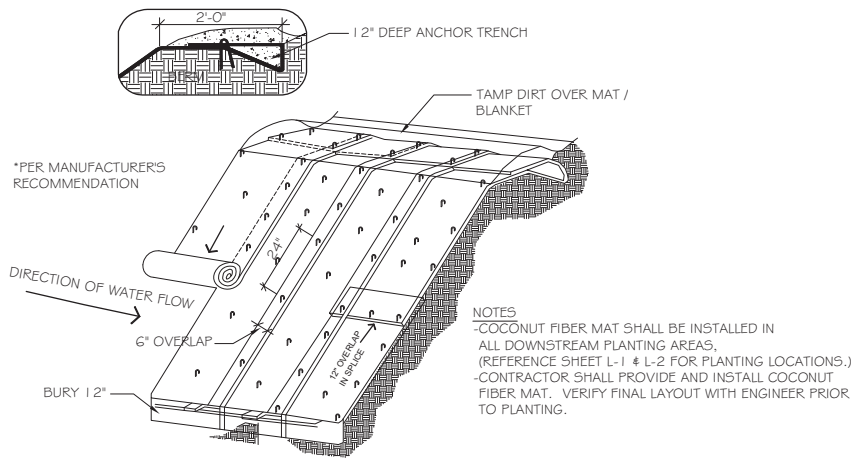
IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Area to Receive Drip Emitters Rain Bird Xeri-Bug XB Single outlet pressure compensating drip emitter, barbed inlet, Blue=0.5gph, Black=1.0gph, Red=2.0gph. Emitter Notes: 1 gal plant to receive 1 0.5 GPH emitter.		Pressure Regulator Honeywell-Brakman (1" w/ 0-100 psi gauge)
	Plastic Remote Control Valve 1" Weathermatic 11000CR Install w/ battery operated remote control valve, Nelson Solorain with actuator.		Reduced Pressure Backflow Preventer Fetco 825Y 1" Install in Strongbox expanded Metal Backflow Enclosure. Model: BC-30CR
(Not shown)	Y Filter Amiad (line size)		Point of Connection @ 5/8" Water Meter
(Not shown)	Pressure Regulator Senninger (line size) or approved equal.		Irrigation Lateral Line: PVC Class 200 UV Resistant Type, 'Dura' or approved equal. Only lateral transition pipe sizes 1" and above are indicated on the plan, with all others being 3/4" in size.
	PVC Ball Valve (line size). Spears or approved equal.		Irrigation Mainline: PVC Schedule 40 UV Resistant Type, 'Dura' or approved equal.
	Quick Coupler Valve 3/4" Rain Bird 33DRC		Valve Callout Valve Number Valve Flow Valve Size

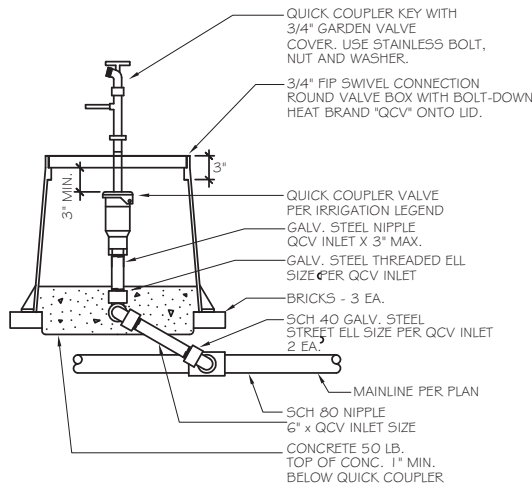


IRRIGATION PLAN PHASE 2

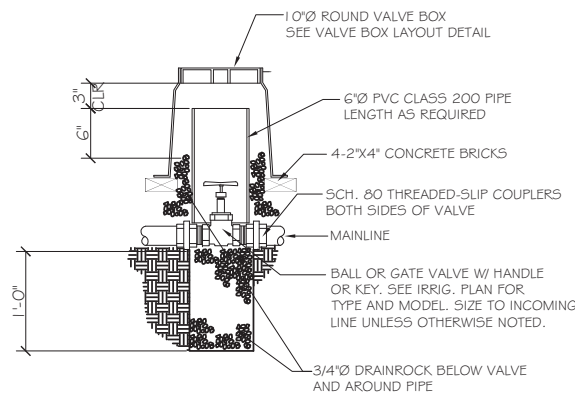
October 17, 2011



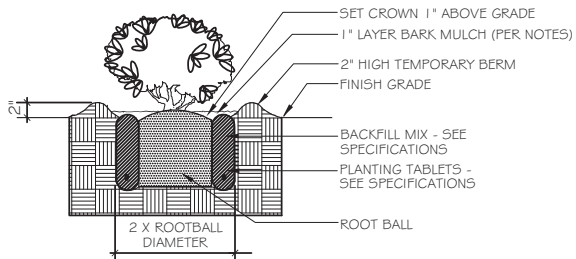
A EROSION CONTROL MAT DETAIL
NOT TO SCALE



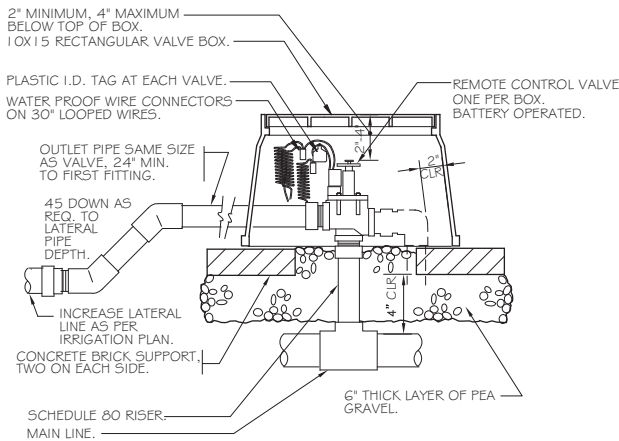
C QUICK COUPLER VALVE
INSTALL ABOVE GRADE



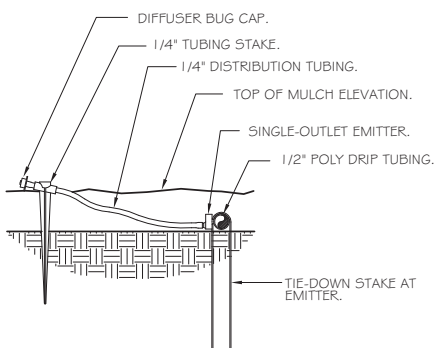
E BALL VALVE
INSTALL ABOVE GRADE



B SHRUB/TREE PLANTING
NOT TO SCALE



D ELECTRIC REMOTE CONTROL VALVE
INSTALL ABOVE GRADE



F DRIP EMITTER WITH 1/4" TUBING

General Notes

- The Contractor shall remove and dispose of all invasive plant species within the project limits. Removal shall be at the direction of the Engineer and the Restoration Specialist.
- All invasive plant species shall be removed from all development and restoration areas throughout the designated plant establishment period.
- Herbicides shall not be used within the Sycamore Creek habitat unless otherwise approved by the Engineer and Restoration Specialist. Target non-native or invasive species shall be removed by hand.
- Rodenticides containing any anti-coagulant compounds (including but not limited to Warfarin, Brodifacoum, Bromadiolone or Diphacinone), shall not be used.

Planting Notes

- Areas to be planted are shown on the drawings. Plant species, quantities, and sources are shown on the drawings. All plants shall be 1-gallon container size. See planting specifications.
- Erosion control mats shall be installed prior to the installation of the drip irrigation system and prior to planting operations.
- Restoration specialist shall be responsible for designating the final locations of all plant materials. Prior to planting operations, final plant locations shall be marked using colored flags.

Construction Fencing

- Fencing shall be plastic type with steel stakes, 48" height. Color: Green
- Final protective fencing layout shall be approved by the Engineer prior to construction.

Chainlink Fencing

- Fencing shall have vinyl-clad fabric. Color: Black. All posts and metal accessories shall be painted black to match. Fencing shall include locking gates as shown on drawings.
- Final chainlink fencing layout shall be approved by the Engineer prior to construction.

Irrigation Notes

- See irrigation legend on sheet L-2 for a complete description of all symbols shown on the drawings.
- All planting areas shown on the drawings shall be irrigated with a temporary drip irrigation system (3 years). All drip irrigation equipment within the project limits shall be surface-mounted.
- The point-of-connection (P.O.C.) for the irrigation system shall be at the new 3/4" water meter shown on the drawings. Verify location with Engineer. Provide a line-size ball valve in a round valve box.
- Contractor shall install the backflow preventer in a locking expanded metal enclosure as shown on the drawings. Verify final location with the Engineer.
- Install a pressure regulator with a 0-100 psi gauge on the backflow preventer. Adjust pressure as necessary to ensure optimum irrigation performance.
- It is the intention of the irrigation system design to provide a temporary drip irrigation system for the purpose of irrigating all plantings shown on the drawings. The Contractor is responsible for making any adjustments to the layout of the irrigation system to insure 100% irrigation coverage of all plantings.
- The irrigation system is designed assuming a static water pressure of a minimum of 75 psi at the point of connection. Prior to installation of irrigation system, contractor shall verify pressure at point of connection and report any discrepancy to the Engineer.
- The Contractor shall provide and install battery-operated controls and actuators on each remote control valve as shown on the irrigation legend. Program each actuator to provide optimum irrigation to all plantings after planting and during the plant establishment period.
- All valves shall be installed in locking plastic valve boxes. All valve boxes shall be surface-mounted. Secure boxes to grade with rebar staples. Install one valve per box. Verify final locations with Engineer.
- All quick couplers shall be located near valve locations for ease of access. Verify final location with the Engineer.
- All pressure mainline and lateral line pipe within the project limits shall be surfaced-mounted and secured with rebar staples.
- All drip piping shall be installed after the installation of the erosion control matting. The drip irrigation pipe and emitters shall be surface-mounted and secured with galvanized metal staples.
- It shall be the contractor's responsibility to install the irrigation system in accordance with all local codes.
- Indicated pipe locations are schematic. Do not place pipe under concrete paving except where absolutely necessary. The irrigation Contractor shall coordinate pipe installation with other trades.
- All piping installed under paving, through walls or footings shall be placed inside schedule 40 PVC sleeves of adequate size to allow free movement of the pipe in the sleeve.



DETAILS & NOTES

PHASE 1 & PHASE 2

October 17, 2011

DAVID R. BLACK & ASSOCIATES
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PUBLIC WORKS
DEPARTMENT
ENGINEERING DIVISION
DATE

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Preliminary Channel Design
Lower Sycamore Creek Drainage Improvements Project
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FA No. BRLS-XXXX
BRIDGE NO. XXXX

7880
PBW. NO.
TBD
BID NO. SHT. DES.
L-5
DWG. NO.
SHT. OF TBD

1.01 SUMMARY

- ## 1.02 PERFORMANCE STANDARDS

- ### 1.03 SUBMITTALS

- A. **MONTHLY INSPECTION REPORT.** The Contractor shall submit a monthly inspection report to the Restoration Specialist during the maintenance period. The report shall indicate the status of installed plants, condition of erosion control mat, weed conditions, condition of irrigation system, watering coverage, corrective actions taken, and recommendations for future actions, as necessary.

- B. **HERBICIDE TREATMENT PLAN.** In the event that herbicide use is approved by the Restoration Specialist and allowed under the emergency provisions of the City's Integrated Pest Management Plan, Contractor shall provide a description of the herbicide to be used at the project site for the plant maintenance including dilution and application rates; manufacturer's name; application equipment and methods; measures to protect the public, including signs, barriers, notifications, etc; measures to avoid spraying protected plants; measures to avoid discharge into creek water. Evidence that the contractor is licensed to apply the herbicide, statement that the herbicide is approved by state and federal agencies for work in the type of environment at the project site.
- C. **RECORD DRAWINGS.** At the end of 24 months of the Maintenance period, Contractor shall prepare Record Drawings that show the location of plants.

2.01 HERBICIDE

AquaMaster™ shall be used in the event that herbicide use is approved by the Restoration Specialist and allowed under the emergency provisions of the City's Integrated Pest Management Plan.

2.02 WATER

Water for irrigation during the maintenance period shall be provided by the City from on-site points-of-connection. The City shall supply water to the project irrigation system at no cost to the Contractor. The Contractor shall have full authority to use water as needed to meet these Specifications.

PART - THREE EXECUTION

3.01 WATERING

- The Contractor shall be responsible for watering the installed plants with irrigation system as necessary to maintain the plants in a healthy and vigorous condition throughout the duration of the maintenance period and before final acceptance.
- B. The frequency and duration of watering operations shall depend on current weather patterns and site-specific soil moisture conditions. The Contractor shall be responsible for receiving approval from the Restoration Specialist the watering schedule and application rates.
- C. Watering shall provide an adequate supply of moisture within the root zone of each plant during the normal growth period of the plant.
- D. The Contractor shall be responsible for conducting site investigations at least as specified above, or at a greater frequency, as necessary to throughout the maintenance period to evaluate the condition of plants, the need for irrigation, and the application of water. These investigations will include inspection of all plants for signs of inappropriate watering, including water stress (caused by lack of water or overwatering), stunted growth, wilting, premature leaf loss, and premature yellowing leaves. If 10% of the plant material appears to be stressed and in danger of perishing the Contractor shall consult the Restoration Specialist to determine the frequency and duration of additional or decreased watering. The Restoration Specialist shall provide approval to the Contractor of any modifications to the approved watering schedule.
- E. At no time shall water be applied in a way that will cause erosion, damage to plants, runoff, or damage to existing or naturally colonizing vegetation. If the watering application rates need adjustment, the Contractor shall be responsible for immediately contacting the Restoration Specialist. The Contractor will assume full responsibility for corrective actions resulting from inappropriate water applications and failure to contact the Restoration Specialist for direction.
- REPLACEMENT PLANTING**
- A. The purpose of replacement planting under this section is to replace plants that died during the maintenance period due to natural mortality or factors that are outside the control of the Contractor. In these situations, the City will provide the plants for replacement planting. However, replacement planting for plant mortality due to poor installation or maintenance practices shall be conducted by the Contractor (plants at labor) at the Contractor's expense as noted elsewhere in the specifications.
- B. Replacement planting shall occur, as needed, at the end of the 90-day maintenance period based on whether the performance standards for these periods have been met. The Restoration Specialist shall provide all replacement plants, unless replacement planting is due to plant mortality from poor installation or maintenance practices. The Contractor shall provide the Restoration Specialist with 30 days advance written notice when requesting replacement plant material.
- C. The Restoration Specialist shall provide all replacement plants, as needed. For the sake of timing, the Contractor shall install all replacement plants to be installed throughout the duration of the maintenance period due to natural mortality, and as such, the City will provide the plants and the Contractor shall install them.
- D. Installation methods for replacement plants shall be in strict conformance to the drawings, these specifications, and the Restoration Specialist's direction.

3.03 WEED CONTROL

- A. The Contractor is responsible for maintaining all individual plants and all areas in between, as shown on the drawings, free of weeds during the duration of the maintenance period in accordance with these specifications.
 - B. Throughout the maintenance period, weeds shall be removed before reaching 4 inches in height or forming flowering heads to meet the standards above at all times of the maintenance period.
 - C. All weeding shall occur by hand pulling and hand tools. Weed removal shall cause minimal disruption to the root systems of the installed plants and seed germinated plants.
- If emergency herbicide use is allowed once a year under the City's Integrated Pest Management Plan, the Contractor shall provide a schedule for the annual herbicide treatment to the Event Specialist at least 14 days prior to the event. During each event, hand crews shall spray all plants using backpack units with a narrow spray to minimize drift and accidental spraying of native species. Herbicide shall be applied so that it will not drift, or show signs of drift, outside designated revegetation planting area. At all times, existing and installed plants must be protected from herbicide drift. The applicator shall avoid spraying during windy conditions; if windy conditions are the applicator shall use a large droplet size and low tank pressure and shall use a movable shield barrier to spray to protect against drift. Contractor shall exercise great caution in the use of the herbicide to the targeted plants only. Non-targeted plants shall not be sprayed, nor shall any other plants.

drift from nearby spraying. No herbicide application may occur within 25 feet of the creek top of bank.

- E. The Contractor shall be responsible for replacing plants that are killed due to herbicide drift or mistaken application at the Contractor's sole cost, including plant material and installation labor.
- F. Dead weed material shall be removed from all weeding efforts.

3.04 OTHER MAINTENANCE

- A. During the maintenance period, the Contractor shall inspect the erosion control mats on a weekly basis, or more often if needed, and after every rain event. The Contractor shall repair or replace mats or fiber rolls that are dislodged, damaged, ripped, torn, eroded, or otherwise caused to be non-functional. The Contractor shall also repair any erosion to earthen banks caused by failure of the erosion control mats or fiber rolls. maintenance work shall be performed within one week of locating problems, but always prior to the next winter rain event.
- B. During the maintenance period, the Contractor shall inspect the irrigation system on a weekly basis, or more often if needed. The Contractor shall repair or replace parts that are damaged or non-functional. The City shall reimburse the Contractor for parts.
- C. During the Maintenance period, the Contractor shall inspect landscaping and prune plants for proper growth and to remove diseased stems, or remove obstructions on paths.

3.05 CLEANUP AND COORDINATION

Throughout the maintenance period, the Contractor shall keep the project site, areas adjacent to the project site, and trails in a neat and orderly condition and free and clear from debris and discarded materials. The bridge shall be kept clean of debris, soil, and plant material from maintenance activities.

3.06 REMOVAL OF THE IRRIGATION SYSTEM

- A. At the end of 36 months during the maintenance period, the Contractor shall be responsible for removing the irrigation system, to include the backflow preventer, all valves, quick couplers, pressure and lateral line pipe, and all drip irrigation equipment.
- B. Prior to the removal of the irrigation system, the Contractor shall verify and coordinate all work to be completed with the Engineer and Restoration Specialist.
- C. During irrigation removal operations, all plant material shall be preserved and protected from damage to the greatest extent possible. All work shall be done under the direction and supervision of the Restoration Specialist.

3.07 RECORD DRAWINGS

- A. The Contractor shall keep up-to-date as built record drawings during the maintenance period. These drawings shall be updated, as needed, and submitted to the Restoration Specialist at the end of the contract period.
- B. The record drawings shall include information on the location and size of the planting indicated by species. A legend listing all materials shall be included on the record drawings.

3.08 GUARANTEE

- A. Plants installed under the contract shall be guaranteed for the length of the maintenance period against mortality resulting from defects in maintenance.
- B. Plant materials, including seeded areas and transplanted plants, that are dead or found to be unhealthy because of poor maintenance practices and that are therefore not in conformance with the drawings and specifications, shall be replaced according to the Restoration Specialist's direction and at the Contractor's expense. All replacements shall be in strict conformance to the drawings and specifications.

3.09 INSPECTIONS AND FINAL ACCEPTANCE

- A. The Restoration Specialist will conduct periodic site inspections during the maintenance period.
- B. At the end of the maintenance period, at the Contractor's request, the Restoration Specialist shall inspect the project site to evaluate the acceptability of the maintenance practices.
- C. Areas determined as unacceptable, due to lack of performance in accordance with the specifications, shall be reworked and replanted at the Contractor's expense, as necessary, according to the project specifications. The Contractor shall be responsible for any resulting extension of the maintenance period and will do so at no additional cost.
- D. At the time of the final acceptance observation by the Restoration Specialist, the Contractor shall have maintained the project in its entirety according to the performance standards, the drawings, these specifications, and the Restoration Specialist's direction. If, after inspection, the Restoration Specialist is satisfied with the maintenance practices and all plant survival and weed cover goals have been met, the Contractor shall be notified in writing of final project acceptance. If, after inspection, the Restoration Specialist is dissatisfied with the maintenance to date and its conformance to the drawings and specifications, the Restoration Specialist will prepare a written prioritized list of necessary corrective actions on defective work for that stage. The corrections must be completed by the Contractor within 10 days of the initial observation.

END OF SECTION

PHASE 1 & PHASE 2

October 17, 2011

OVER

DATE _____

No.

REVIEWS

FA No. BRLS-XXXX
BRIDGE NO. XXXX

788

PRW. N

TBD	
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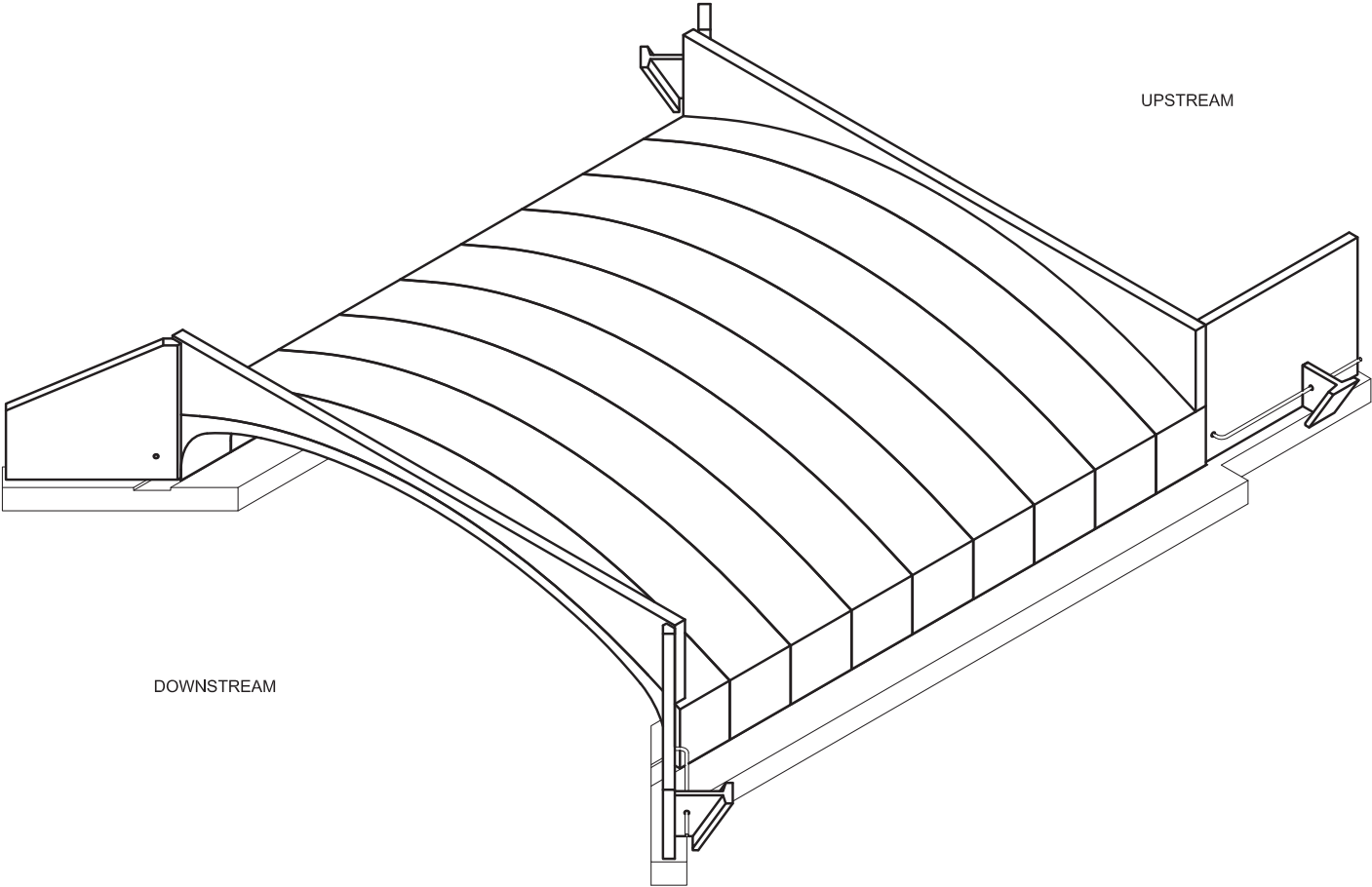
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DWG. NO.

SHT. OF TRM

433192 LOWER SYCAMORE
PUNTA GORDA STREET BRIDGE

SANTA BARBARA, CALIFORNIA



ISOMETRIC VIEW

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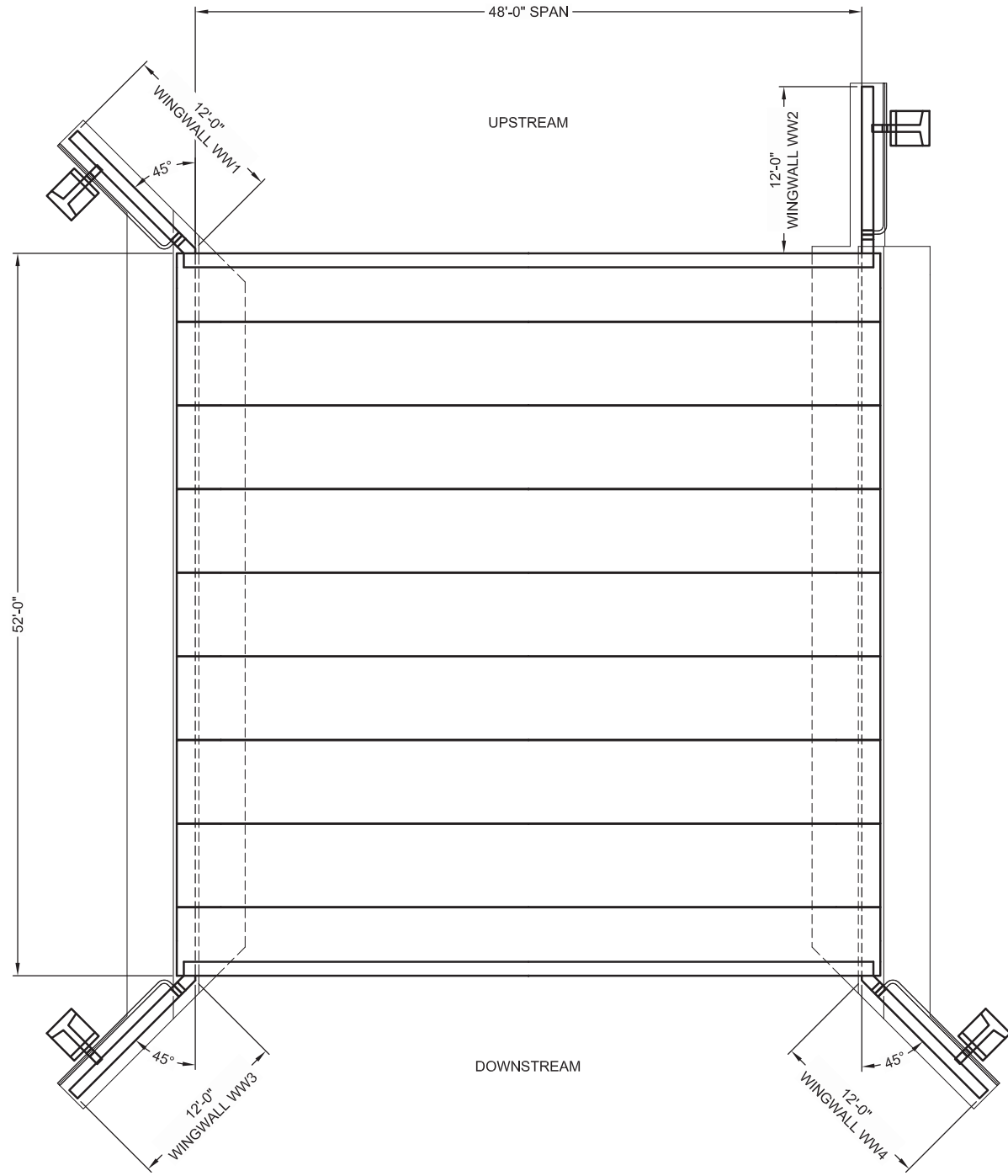
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DRAWING

433192 LOWER SYCAMORE
PUNTA GORDA STREET BRIDGE

SANTA BARBARA, CALIFORNIA

PROJECT No.: 134228	SEQ. No.: 001	DATE: 10/18/2011
DESIGNED: KV	DRAWN: EWM	
CHECKED:	APPROVED:	
SHEET NO.: S1 OF S3		

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BRIDGE PLAN

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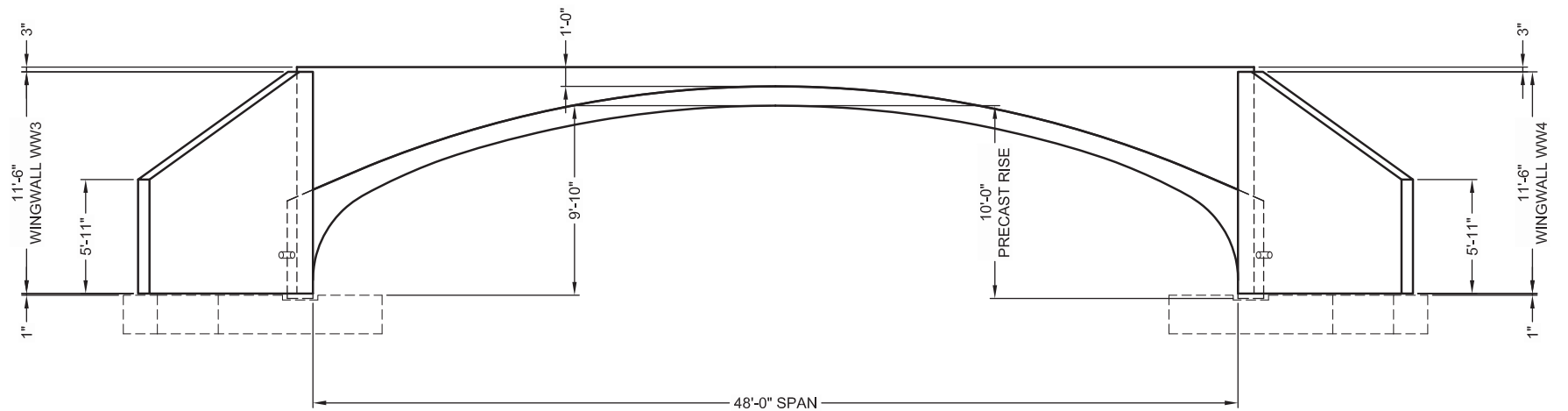
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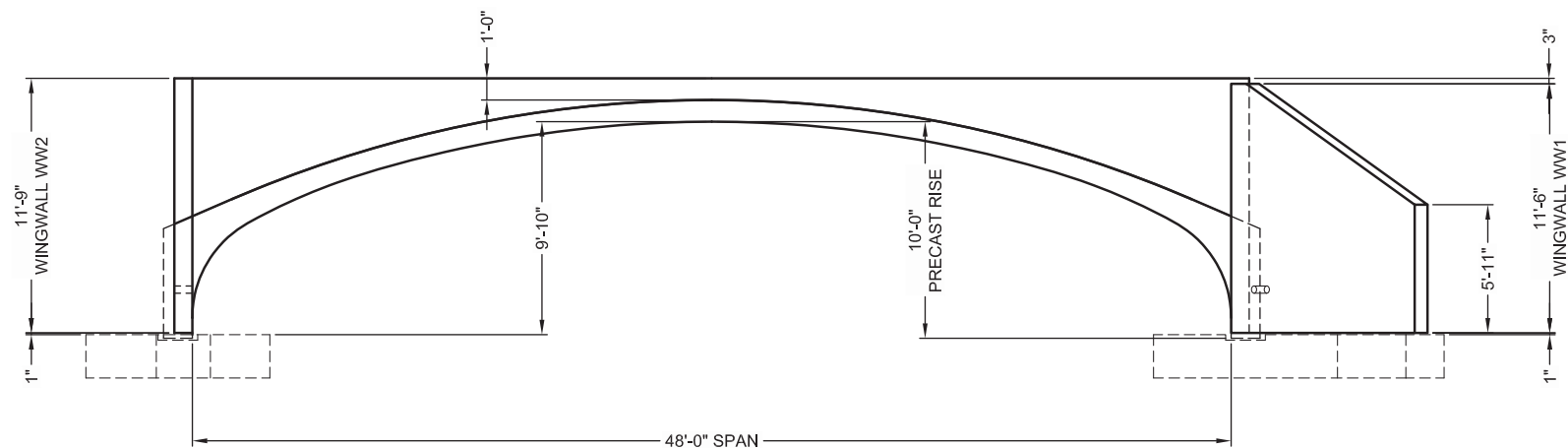
433192 LOWER SYCAMORE
PUNTA GORDA STREET BRIDGE

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PROJECT No.: 134228	SEQ. No.: 001	DATE: 10/18/2011
DESIGNED: KV	DRAWN: EWM	
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SHEET NO.: S2 OF S3		



DOWNSTREAM END ELEVATION



UPSTREAM END ELEVATION

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SHEET NO.: S3 OF S3		